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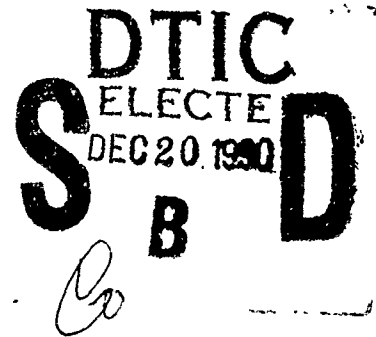
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**CULTURAL RESOURCES SURVEY OF MISSOURI
BEND AND PLAQUEMINE BEND REVETMENT ITEMS,
WEST BATON ROUGE AND IBERVILLE PARISHES,
LOUISIANA**

September 1990

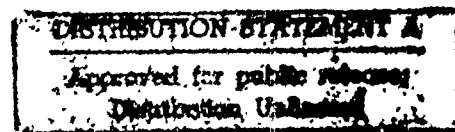
FINAL REPORT

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Submitted to:

**U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
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<p>→ This report presents the results of a cultural resources survey of Missouri Bend and Plaquemine Bend Revetment Items, in West Baton Rouge and Iberville Parishes, Louisiana. Fieldwork was conducted during May and August 1989, by R. Christopher Goodwin & Associates, Inc. for the U.S. Army Corps of Engineers, New Orleans District, pursuant to Contract No. DACW29-88-D-0121, Delivery Order 06. A number of high probability areas for archeological sites, including two loci discussed below, were identified using historic maps and archival information. The Clara Belle Plantation site (16IV160) was identified during the survey of the Plaquemine Bend Revetment Item. Medora Plantation, another high probability area, was tested using an auger; testing at this locus failed to produce any cultural material.</p> <p>A Phase II evaluation of the Clara Belle Plantation site (16IV160) revealed redeposited artifacts dating from the 1840s through the 1870s. These artifacts probably were deposited during the construction of the Clarabel Levee setback (1876). No further work is recommended at 16IV160. <i>Keywords: Archeology; Mississippi River; Levees; History/land use; Rivers/deltas/flooding; Banks waterways/stabilization; Revetments/construction; Soil stabilization;</i></p>					
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(cont) → Augers/test methods.



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REPLY TO
ATTENTION OF

September 12, 1990

Planning Division
Environmental Analysis Branch

To The Reader:

This report of survey and site inventory was prepared for the U.S. Army Corps of Engineers, New Orleans District in advance of construction of two revetment items along the Mississippi River in West Baton Rouge and Iberville Parishes, Louisiana. One historical site, Clara Belle Plantation (16IV160), was identified adjacent to the river channel. It was tested and assessed to be nonsignificant. The State Historic Preservation Officer concurred with this conclusion by letter dated November 27, 1989. Construction of these specific reaches of Missouri Bend and Plaquemines Bend Revetment Items may proceed without the need for further investigation.



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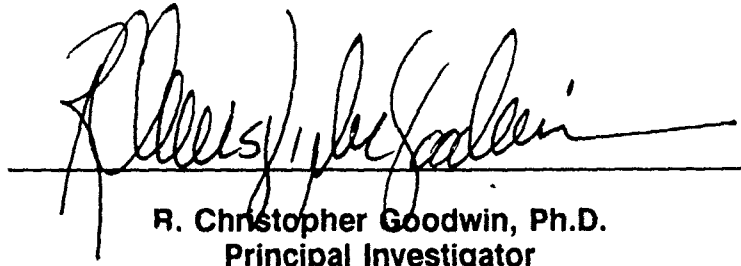
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**CULTURAL RESOURCES SURVEY OF
MISSOURI BEND AND PLAQUEMINE BEND REVETMENT ITEMS,
WEST BATON ROUGE AND IBERVILLE PARISHES, LOUISIANA**

FINAL REPORT

By



**R. Christopher Goodwin, Ph.D.
Principal Investigator**

With

**Stephen Hinks, William P. Athens, James M. Wojtala, Paul C. Armstrong,
Jennifer A. Cohen, Julie McClay, and William A. Morgan**

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5824 Plauche Street
New Orleans, LA 70123**

September 1990

For

**U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA 70160**

Contract No. DACW29-88-D-0121, Delivery Order 06

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CHAPTER I

INTRODUCTION

This report presents the results of a cultural resources survey of Missouri Bend (M-224.4 to 223.8-R) and Plaquemine Bend (M-212.6 to 210.5-R) Revetment Items. These revetment items are located on the west (right descending) bank of the Mississippi River, in West Baton Rouge and Iberville Parishes, Louisiana (Figures 1, 2, and 3). Survey was conducted during May and August 1989, by R. Christopher Goodwin & Associates, Inc., for the U.S. Army Corps of Engineers, New Orleans District, pursuant to Contract No. DACW29-88-D-0121, Delivery Order No. 06.

The proposed revetment items are designed to stabilize the river bank by placing a mechanically laid articulated concrete mattress from the low water line to a point several hundred feet within the river channel. During construction, a 60 m (200 ft) wide corridor will be cleared of vegetation, and the river bank will be graded to a standard slope. Revetment construction will alter the entire bankline significantly, damaging and/or destroying all archeological resources located within 60 m (200 ft) of the low water line, and within three vertical meters (10 ft) of the ground surface. Heavy machinery may damage surficial archeological resources located outside the immediate revetment construction area; however, buried resources should remain intact. Construction of the Plaquemine Bend Revetment Item is scheduled to commence in August 1989; the construction date for the Missouri Bend Revetment is not definite (Appendix I).

This archeological survey was designed to identify, to inventory, to test, and to evaluate all archeological sites and pre-1945 standing structures found within the associated work areas. Archival research focused on obtaining economic data germane to the development of the west bank of the Mississippi River; particular emphasis was placed on those areas located within the immediate vicinity of the two revetment items. Data obtained during archival research aided assessment of the archeological loci. Field investigations consisted of intensive pedestrian survey and subsurface testing of approximately 216 acres. During survey, one archeological site, Clara Belle Plantation (16IV160), was identified. This nineteenth century site was located along the riverbank within the Plaquemine Bend Revetment Item.

Organization of the Report

Chapter II examines the natural setting of the project area; it addresses physiographic change, and how these changes affected the batture and the associated archeological resource base. This chapter also reviews the natural environment within the two project items. Chapter III summarizes previous archeological investigations. Chapter IV examines the historical and economic development of the immediate area. Chapter V discusses field methods used throughout the course of the survey. The results of field investigations appear in Chapter VI. Chapter VII discusses laboratory analysis and recovered artifacts. Chapter VIII contains a summary and management

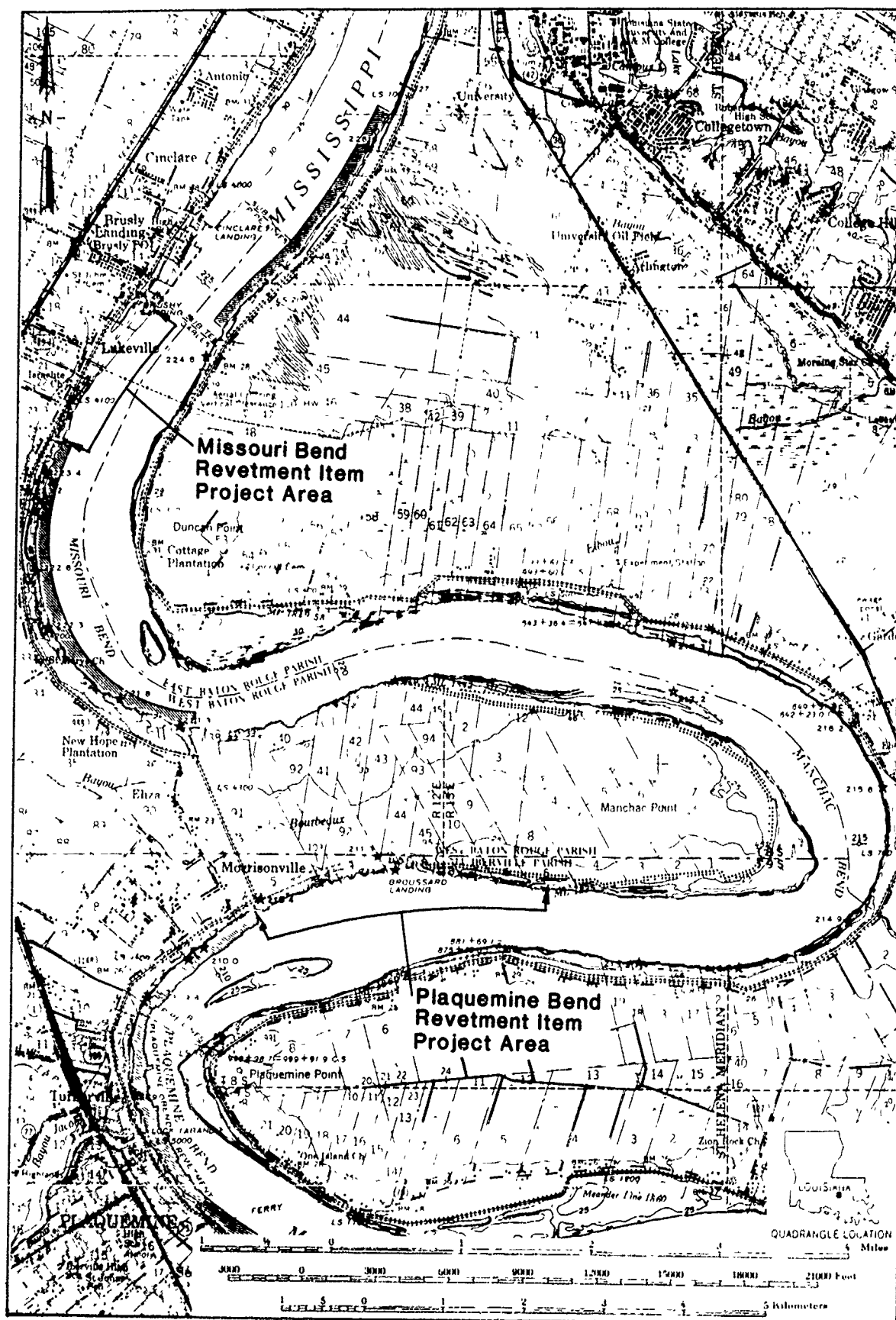


Figure 1. Excerpt from the 1965 USGS 15 minutes series topographic quadrangle, Baton Rouge, Louisiana, showing the locations of the Missouri Bend and Plaquemine Bend Revetment Items.

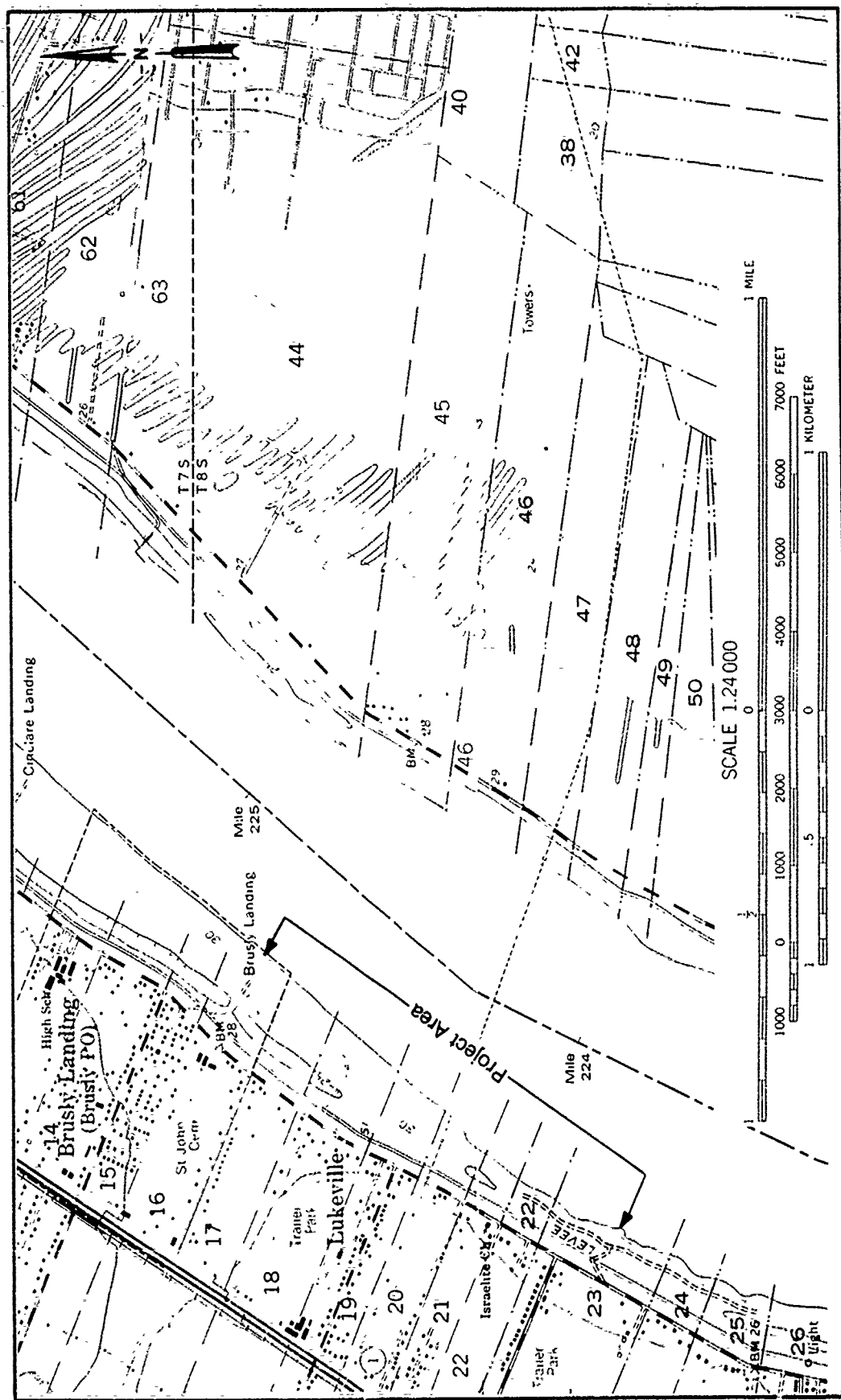


Figure 2. Excerpt from the 1963, photorevised 1971 and 1980, USGS 7.5 minute series topographic quadrangles, Baton Rouge West and Plaquemine, Louisiana, showing the location of the Missouri Bend Revetment Item project area.

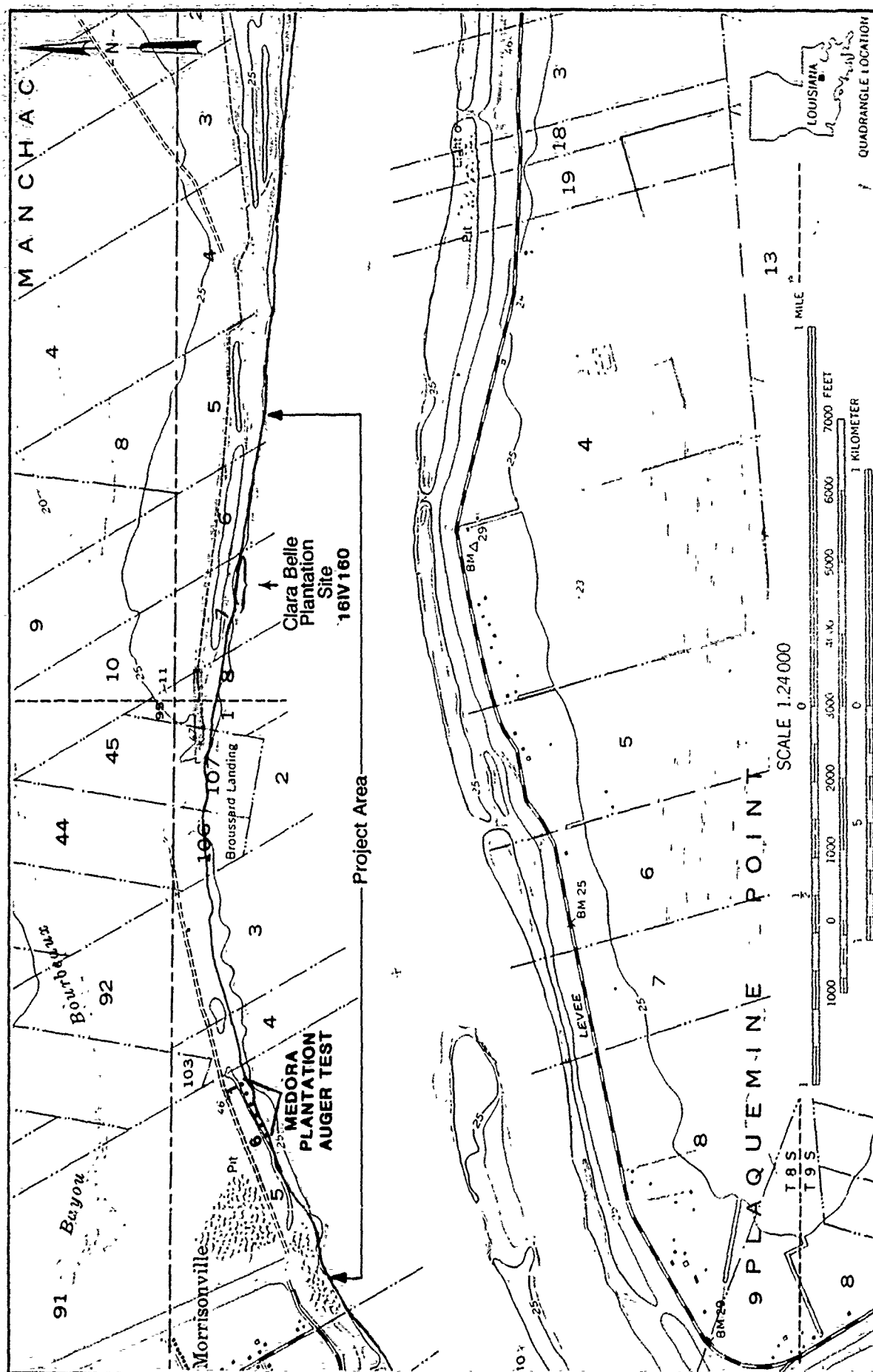


Figure 3. Excerpt from the 1963, photorevised 1971 and 1980, USGS 7.5 minute series topographic quadrangle, Plaquemine, Louisiana, showing the location of the Plaquemine Bend Revetment Item project area, the Clara Belle Plantation site, and auger test placement within Medora Plantation.

recommendations, and it also addresses the significance of 16IV160, the Clara Belle Plantation site, applying the National Register of Historic Places criteria of significance.

CHAPTER II

THE SETTING

The Missouri Bend and Plaquemine Bend Revetment Items are located on the west (right descending) bank of the Mississippi River between River Miles 225.0-210.0-R. These items are situated within the modern meander belt of the Mississippi River in portions of West Baton Rouge and Iberville Parishes, between Baton Rouge and Plaquemine, Louisiana. This chapter examines the natural setting, and the geological and cultural processes which influence the preservation and/or destruction of archeological resources located within the project area.

The climate of the Baton Rouge area is humid and subtropical. The mean annual temperature is 67.5° Fahrenheit. January is the coldest month, averaging 50.8° Fahrenheit; July is the warmest month, with mean temperatures averaging 82.1° Fahrenheit. The record high temperature of 110° Fahrenheit occurred during August 1909; a record low of 1° Fahrenheit was recorded in February 1899. Annual precipitation averages 55.77 in; July is the wettest month (7.07 in), and October is the driest month (2.63 in). Average annual wind speed is 7.2 mph. March is the windiest month (8.9 mph), and August is the calmest (5.2 mph). Wind direction is predominately southeasterly (U.S. Army Corps of Engineers 1989:11-13).

The project area is located in the Southern Mississippi Valley Alluvium subregion of the Coastal Plain. Nearly level and gently sloping broad flood plains with low terraces characterize this subregion. Landforms include natural levees situated adjacent to stream channels and bottom lands, and sharp terrace scarps (U.S. Department of Agriculture, Soil Conservation Service [USDA, SCS] 1969:3-5). While natural levees are common throughout the project area, sharp terrace scarps are not.

Soils situated within the project area are classified in two soil survey reports. The *Soil Survey of Pointe Coupee and West Baton Rouge Parishes Louisiana* (USDA, SCS 1982) classifies soils found within the Missouri Bend Reach and the north edge of the Plaquemine Bend Reach as Robinsonville-Commerce Association soils, including Robinsonville, Commerce, and Convent series soils. These level to gently undulating soils are confined to the unprotected side of the natural levee. Robinsonville soils are well drained soils located along the higher portions of natural levees. These soils are characterized by a surface layer of 10YR 4/2 dark grayish brown silt loam or fine sandy loam overlying stratified 10YR 5/3 brown and 10YR 6/3 pale brown very fine sandy loam, loam, and loamy, very fine sand deposits. Commerce soils are somewhat poorly drained soils situated on high to intermediate portions of natural levees. Commerce soils are comprised of a 10YR 4/2 dark grayish brown silt loam or silty clay loam surface layer overlying 10YR 4/2 dark grayish brown silt loam and silty clay loam; the latter grades into a 10YR 5/2 grayish brown silty clay loam. Robinsonville soils generally are found on low convex ridges, while Commerce soils occupy the adjacent shallow swales. These soils occasionally are flooded and are subject to both deposition and scouring. The remaining Convent soils are somewhat poorly drained and occur within low-lying areas

(USDA, SCS 1982).

The *Soil Survey of Iberville Parish, Louisiana* (USDA, SCS 1977), categorizes soils within the Iberville Parish portion of the Plaquemine Bend Reach as Convent soils. These somewhat poorly drained soils have a surface layer of 10YR 4/2 dark grayish brown silt loam overlying a layer of 10YR 5/2 grayish brown silt loam with 10YR 5/4 yellowish brown and 7.5YR 4/4 dark brown mottles; bedding planes also are prominent. The soils within the project area are classified under two different soil associations, both soil associations consist of poorly developed soils that are frequently flooded, and are subjected to scouring and deposition.

A wide variety of flora are present within the two revetment items. These include black willow (*Salix nigra*), eastern cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), persimmon (*Diospyros virginiana*), white mulberry (*Morus alba*), oak (*Quercus* sp.), and honey locust (*Gleditsia triacanthos*). Willows, cottonwoods, ash, sycamore, and mulberry favor areas close to the river, while oak, hickory, boxelder, sugarberry, and sweetgum dominate as one approaches the levee. Dominant understory vegetation includes several varieties of grass, poison ivy, grape, and blackberry.

Important faunal species found throughout the area include cottontail rabbit (*Sylvilagus floridanus*), swamp rabbit (*Sylvilagus aquaticus*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), nutria (*Myocastor coypus*), nine-banded armadillo (*Dasypus novemcinctus*), white-tailed deer (*Odocoileus virginianus*), squirrel (*Sciurus* sp.), and otter (*Lutra canadensis*). In addition, a variety of birds, fish, and reptiles also are common to the project area (Lowery 1974; Gosselink 1984).

The Mississippi River represents the most dominant feature affecting the project area. The Mississippi River drains an area of 3,344,560 square kilometers; this is the third largest drainage area in the world, and it extends over more than 40 per cent of the coterminous United States (Coleman 1976; Cry 1978). Materials from as far away as the Rocky Mountains are deposited in the Mississippi River delta region (Kolb and Van Lopik 1958). The river is characterized by lateral migration, meanders, cutoffs, and crevasses. However, from Old River, Louisiana to the Gulf of Mexico, meanders decrease in number. The channel becomes narrower and deeper, and the slope begins to decrease (Cry 1978).

Geomorphological processes along the Mississippi River both help and hinder the archeologist's ability to locate cultural resources. Riverine, geological, and cultural processes interact to destroy, and in some cases to preserve, archeological remains. Within the immediate vicinity of the project area, cutbanks exist along the west bank of Missouri Bend and Plaquemine Bend and along the east bank of Manchac Bend. Cutbanks form on the side of the river containing the thalweg where the velocity of the water and the turbidity of the current scour the bank and cause caving banks. Sites located along these cutbanks often are destroyed through erosion.

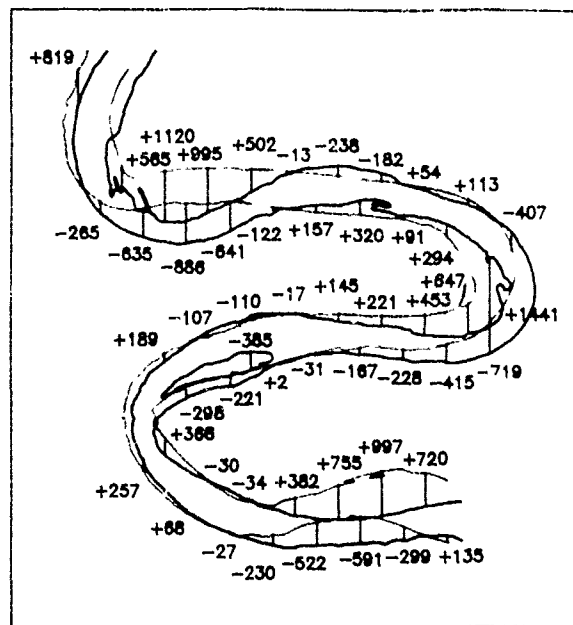
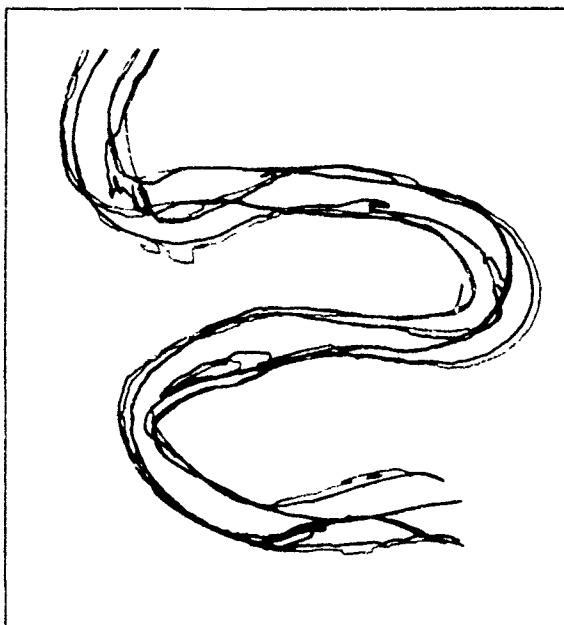
Overbank flooding, which increases the speed and force of the river, either can destroy sites or preserve them. Sites along the batture often are destroyed as cutting becomes more severe. On the other hand, flooding can preserve sites by capping them with layers of silt. However, the capping of sites with sedimentation can adversely affect sites by masking them and by interfering with site identification during archeological survey.

The confinement of the Mississippi River with levees and revetments restricted deposition and erosion to the batture (Goodwin, Hewitt et al. 1990). This confinement increased both bankline cutting and destruction. A comparison of Mississippi River bankline locations showed substantial change in the river's course over the past 110 years (Figures 4 and 5). To analyze bankline change, the 1880 Mississippi River Commission (MRC) maps (Charts 66 and 67), the 1908 Baton Rouge, Louisiana USGS 15' series topographic quadrangle, the 1980 photorevised Baton Rouge, Louisiana USGS 7.5' series topographic quadrangle, and the 1973-1975 Mississippi River Hydrographic Survey maps (Sheets 28-30) were digitized and rescaled. Parallel north/south transects were drawn at 1000 m intervals to assess the effects of these fluvial processes. Since 1880, substantial cutting and aggrading occurred within the study area. Beginning upriver near Brusly Landing and progressing south, cutting removed over 800 m of bankline from Missouri Bend, 719 m of material from Manchac Bend, and almost 600 m of material from below Plaquemine Bend (Figures 4 and 5).

Bankline cutting and aggrading shifted the course of the Mississippi River both south and east. This shifting caused the east bank of Missouri Bend to migrate south over 1100 m. Similar shifts were noted at Manchac Bend and Plaquemine Bend (Figures 4 and 5). In addition, a small island formed upriver from Plaquemine Bend between 1908 and 1973. Aggrading occurred along the east bank of Missouri Bend, the west bank of Manchac Bend, and along the east bank of the Mississippi River, east of Plaquemine Bend. As the river passed through the project area, it altered the bankline's location by cutting and aggrading. This probably affected archeological sites scattered throughout the project area.

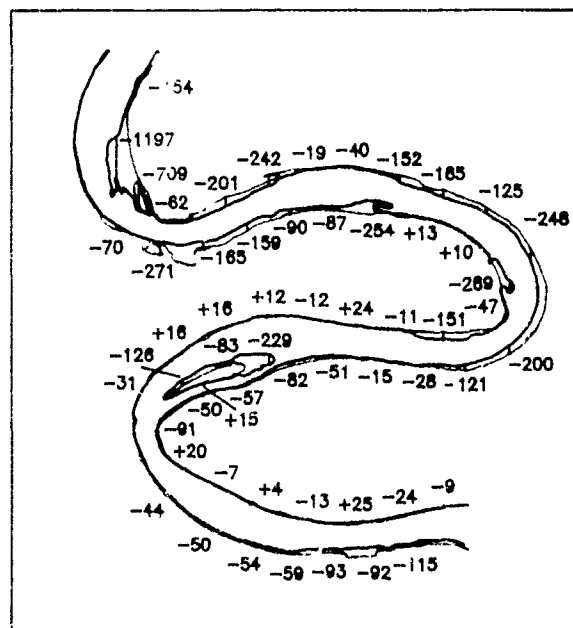
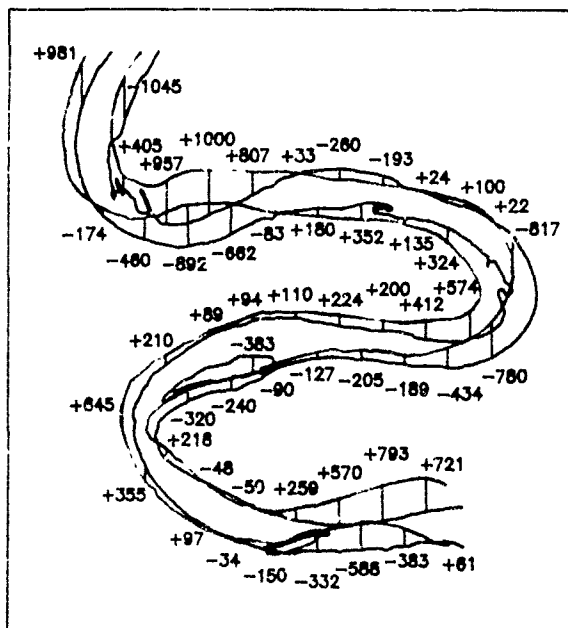
Bankline erosion caused by wave action and water flow also results in site destruction. When an archeological site is located above the water line on vertical cutbanks or bluffs, wave action and water flow at the toe of the bluff undercuts the base. This action causes large chunks of the matrix to fall off or slump into the river (Gramann 1982). Wave action results from both natural and cultural processes. Tidal cycles and high winds are examples of natural factors. In addition, the river flows at an average rate of approximately 600,000 cu ft per second (USDA, SCS 1982). The impact of these natural processes on the archeological data base varies as one moves through the project area. The cartographic data base (Figures 4 and 5) depicts the results of these processes. Bankline erosion impacts large volumes of potentially significant archeological deposits in this area.

In addition to natural elements such as wind, rain, and fluvial processes of the river (cutting and aggrading), man-made factors such as wave action from ships can adversely affect sites. Along portions of the lower Mississippi River deltaic system, ship-generated



RIVERBANKS. 1880, 1908, 1973, 1980

1973 VS. 1880

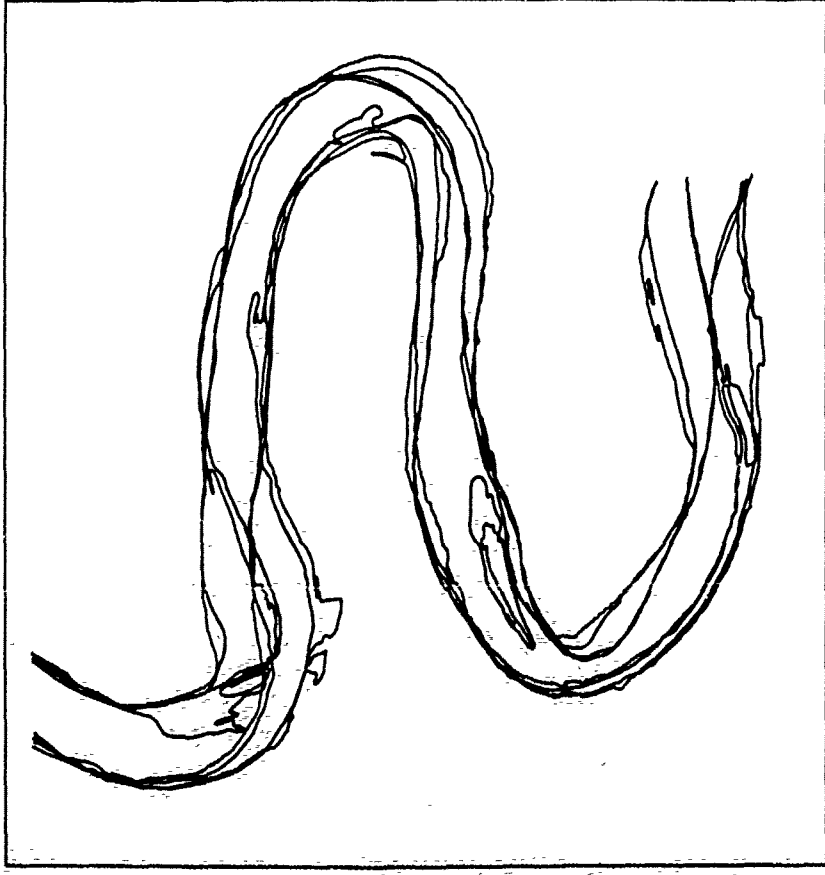


1973 VS. 1908

1973 VS. 1980



Figure 4. Composite maps showing bankline aggrading and cutting in the two project areas.

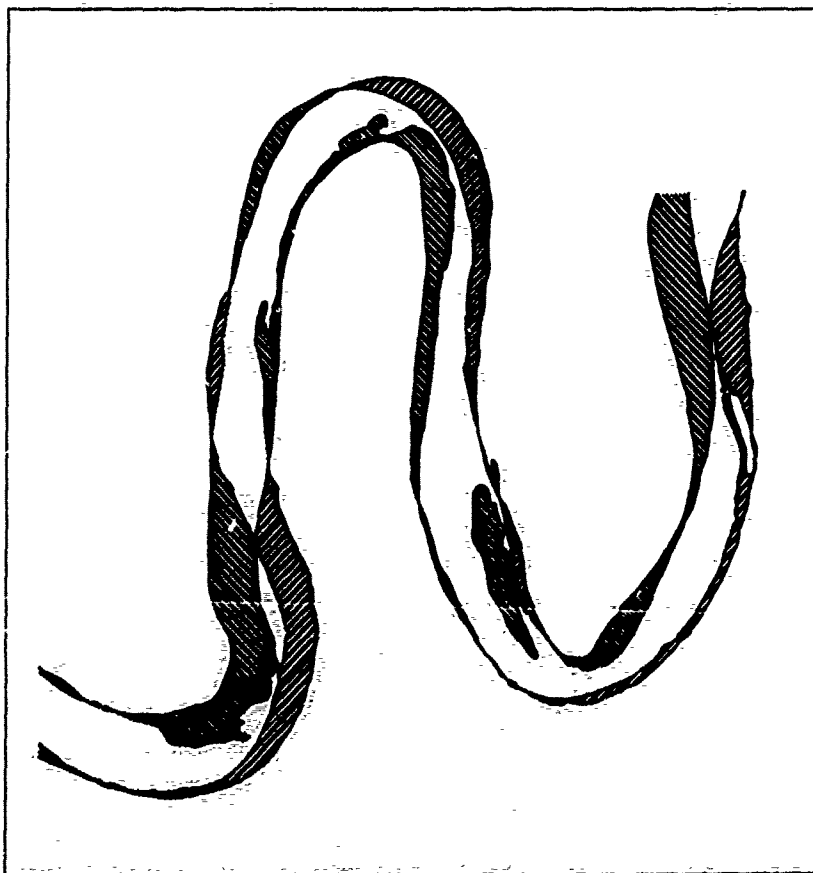


RIVERBANK: 1880, 1908, 1973, 1980

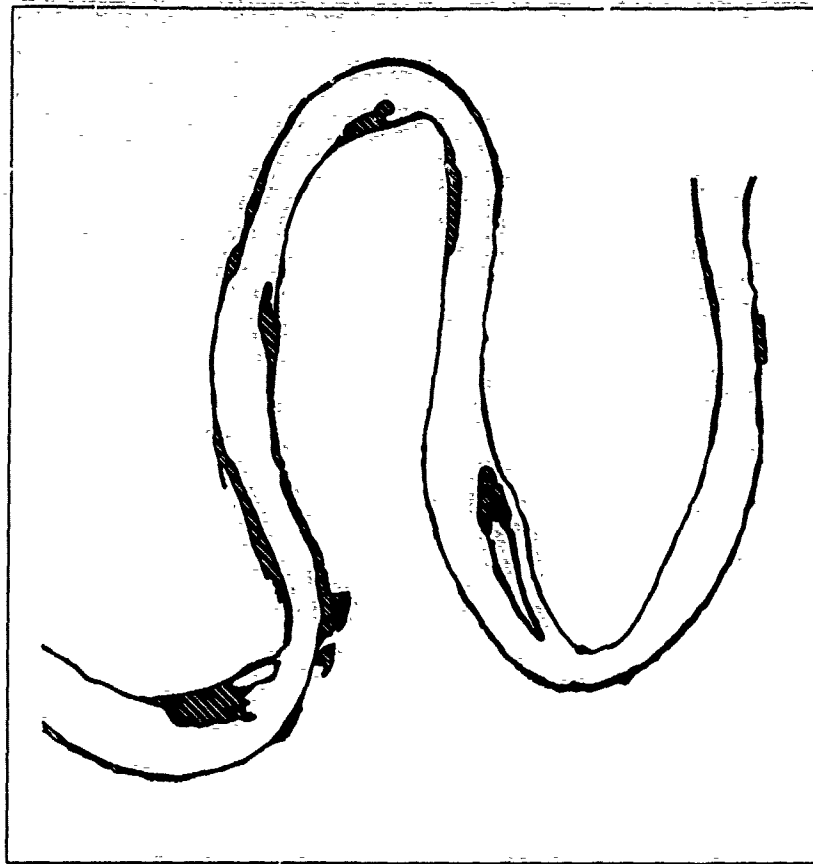


1973 VS. 1880





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1973 VS. 1980

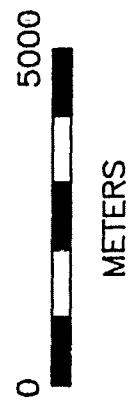


Figure 5. Composite maps showing bankline aggrading and cutting in the two project areas.

wave action is so severe that the U.S. Army Corps of Engineers constructed foreshore protection dikes to protect marshes, bayous, and river banks. This problem corresponds to an increased use of the river by large ships (Robinson and Ethridge 1985). Since the ports between New Orleans and Baton Rouge are among the most active in the United States, the effect of wave action generated by sea-going vessels is considerable (Gooselink 1984). Other cultural processes also affect the area. The construction of levees, revetments, and other flood control items impact the resource base through grading and excavating of the ground surface.

Artificial levee construction, which restricts the overflow of the river, also impacts the area. Levees both protect the area inland from flooding, and restrict the dynamic riverine forces of aggradation and cutting to the batture. While levee construction damages and destroys some cultural resources, the levee system played an integral part in the historic development of the region, and is necessary for protecting life and property. In addition, levees and revetments help to preserve and to protect inland cultural resources from erosion and flooding.

During artificial levee construction, the levee foundation is cleared of organic debris. Tree stumps and roots more than an inch in diameter are removed to a depth of 6 ft, sometimes by blasting. A 6 ft deep inspection (muck) ditch is excavated and refilled, normally along the levee centerline, to disrupt the normal flow of subsurface water. Surrounding depressions, including archeological features, are filled to grade. The ground surface at and near the levee under construction is grubbed to promote bonding between the artificial levee and the natural ground surface. Soils used in levee construction normally are obtained from borrow pits situated on the river side of the levee, potentially destroying any archeological sites within that location. In addition, construction processes using large earthmoving machines often disturb the surrounding surface deposits. The impact of these levee and revetment construction techniques on the archeological record is discussed in detail elsewhere (Goodwin, Hinks et al. 1989).

Revetment construction also disturbs archeological remains located near the river. The initial phases of revetment construction include removal of all organic debris from the ground to a depth of 6 ft. The bank is graded, a process that can remove several vertical feet of soil from the top of the bankline. The revetment is laid, and riprap is placed on the upper bank to prevent erosion and undermining of the revetment. Both levee and revetment construction normally disturb the upper soil deposits and often destroy archeological sites (Goodwin, Hinks et al. 1989). Several revetment items exist near the immediate project area.

Although situated only a few miles apart, natural and cultural processes affect the two project areas in different ways. These are summarized below for each of the two revetment items.

Missouri Bend Revetment Item

The Missouri Bend Revetment Item is located on a slightly concave reach of the Mississippi River a short distance upriver from Manchac Point, between the town of Brusly and the historic Missouri Plantation (Figures 2 and 6). As discussed above, the Missouri Bend project area is positioned on an aggrading bank; the upriver end is aggrading rapidly, while the downriver end remains relatively stable. The continuing aggradation was noted during the field investigations; up to 20 cm of new sediment was observed adjacent to the river along the upper portion of the project area within four months. This increased the width of the batture a few meters. While largely stabilized by the upstream portion of the Missouri Bend Revetment, the area located downriver from the current project area was historically a cutting bank.

The excavation of borrow pits for materials used in levee construction and for commercial sale probably destroyed or disturbed much of the batture. At the wider upriver end of the project area, three borrow pits were excavated previously. A fourth borrowing operation located near the river was underway at the time of the field investigations. As depicted in Figure 6, the borrow pits located adjacent to the modern levee may have damaged or destroyed nineteenth century cultural resources, especially in the vicinity of Brusly Landing and the northwest end of the project area. In addition, the modern levee overlies probable remains of several structures at Brusly and on the W. Kirkland property (Figure 6).

Large quantities of modern refuse were dumped in portions of the Missouri Bend Reach. While in effect creating future archeological sites, this refuse can obscure signs of historic and prehistoric archeological deposits.

The upstream portion of the Missouri Bend Revetment helps stabilize the steadily receding bankline situated north of Manchac Point, and prevents the development of a natural cutoff across the point. A cutoff would alter the river's alignment, thereby flanking the Plaquemine Revetment and the DOW Chemical Company wharf. The segment constructed in 1966 comprised 16,193 linear feet of articulated concrete mat. Repairs were made almost yearly between 1966 and 1984. Construction of an additional 6,439 linear foot section occurred during 1984. Repairs to the revetment included the placement of additional riprap, and of additional sections of articulated concrete mattress (U.S. Army Corps of Engineers 1987).

Plaquemine Bend Revetment Item

Manchac Point, or Australia Point, is a point bar. Bayou Bourbeaux, historically named Bayou Bourbe, is the point stream that drains Manchac Point. The natural course of this stream leads westward, just north of the Iberville Parish boundary, to the Atchafalaya Basin (Russell 1938). The Australia Point levee, the natural course of this point stream, constructed in 1932, interrupts and effectively removes the entire point from the levee protection system. Unable to follow its natural course to the Atchafalaya Basin, the portion of Bayou Bourbeaux located on Manchac Point currently drains into the

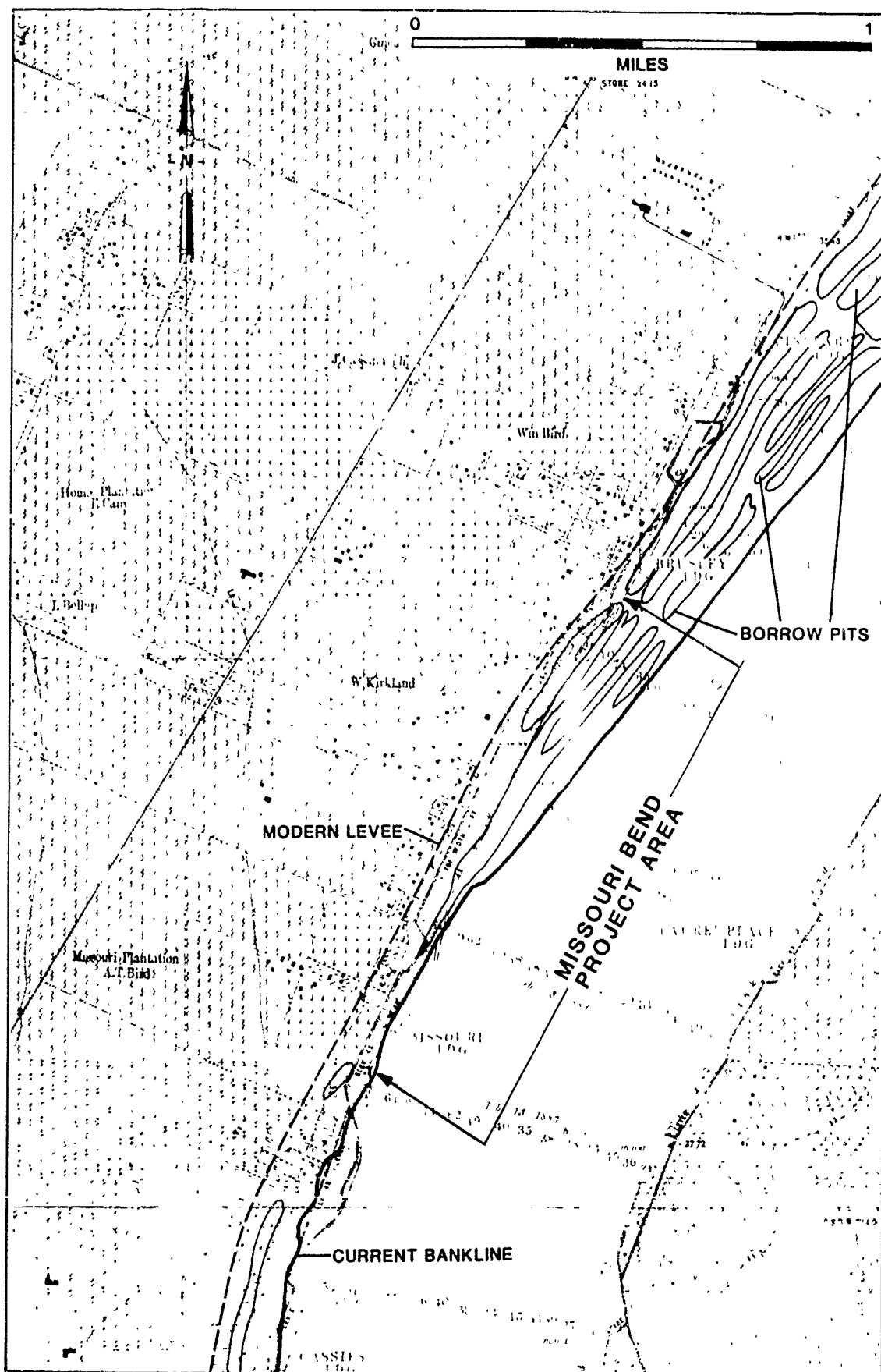


Figure 6. 1879-1880 Mississippi River Commission map, Charts 66 and 67, showing the Missouri Bend Revetment Item project area, with locations of existing bankline, levee, and borrow pits (Louisiana Collection, Tulane University).

Mississippi River in the vicinity of Broussard Landing (River Mile 211.7-R) in the Plaquemine Bend Reach (Figure 3). The bayou drains into the river when the river stage falls below 22 ft on the Baton Rouge Gauge. When the river rises above 22 ft, the river flows up the bayou and floods much of Manchac Point. Seasonal flooding adds additional sediment to the lower lying portions of the point. For example, spring flooding, which occurred prior to the start of fieldwork, deposited between 5 to 10 cm of silt around Bayou Bourbeaux at Broussard Landing.

In contrast to the Missouri Bend Reach, the entire Plaquemine Bend Reach is located within a cutting bank. More severe cutting occurs at the downriver end of the Plaquemine Bend Reach (Figures 4 and 5). Since 1880, over 100 m of material eroded into the river in this area. While levee alignments remained virtually unchanged within the previously discussed Missouri Bend Reach, alignments to the Plaquemine Bend Reach were updated repeatedly to combat these dynamic conditions. As discussed more fully in Chapter IV, a number of levees were setback within the Plaquemine Bend project area prior to the 1932 removal of the point from the levee protection system. These setbacks protected plantations on Manchac Point from seasonal inundation.

Through comparison of the 1880 MRC map, Chart 67, with the existing bankline, levees, and borrow pits (Figure 7), it is clear that some archeological resources were destroyed or damaged by riverine cutting and levee construction. These included two batture structures and several other buildings associated with the historic Clara Belle Plantation, a probable sugarmill, and up to 21 cabins and small buildings associated with historic Medora Plantation.

Damage to cultural resources possibly occurred around Medora Range Front Light, Medora Range Rear Light, and several day boards. Just west of Broussard Landing, considerable fill was added, and the area was graded. Any cultural resources previously situated within the area probably were buried or were destroyed by the establishment and improvement of these aids to navigation.

Considerable modern refuse is scattered within the Plaquemine Bend Reach. Most of this garbage is dumped along the unimproved road which extends from the modern levee to Broussard Landing, and by each of the navigation aids. This refuse disposal occurs almost daily. Subsurface tests conducted within the refuse failed to locate additional archeological deposits.

Since the nineteenth century, riverine cutting at Plaquemine Bend destroyed several levee lines and a substantial portion of the town of Plaquemine. Revetment construction at Plaquemine Bend, first approved in 1888, prevented bank caving, protected the levee system and the Plaquemine Lock, and stabilized the channel. Between 1889 and 1902, 1,155 linear feet of bankline were stabilized with the emplacement of five spur dikes and a layer of willow mattresses. New revetment construction and necessary maintenance resumed in 1912, and continued, almost yearly. During these years, the revetment was extended 16 times to its current length of 36,137 ft. While the early revetments were constructed of framed willow mats, and later of asphalt mats, most major repairs (since 1965) utilized articulated concrete mattresses (U.S. Army Corps of Engineers 1987). The

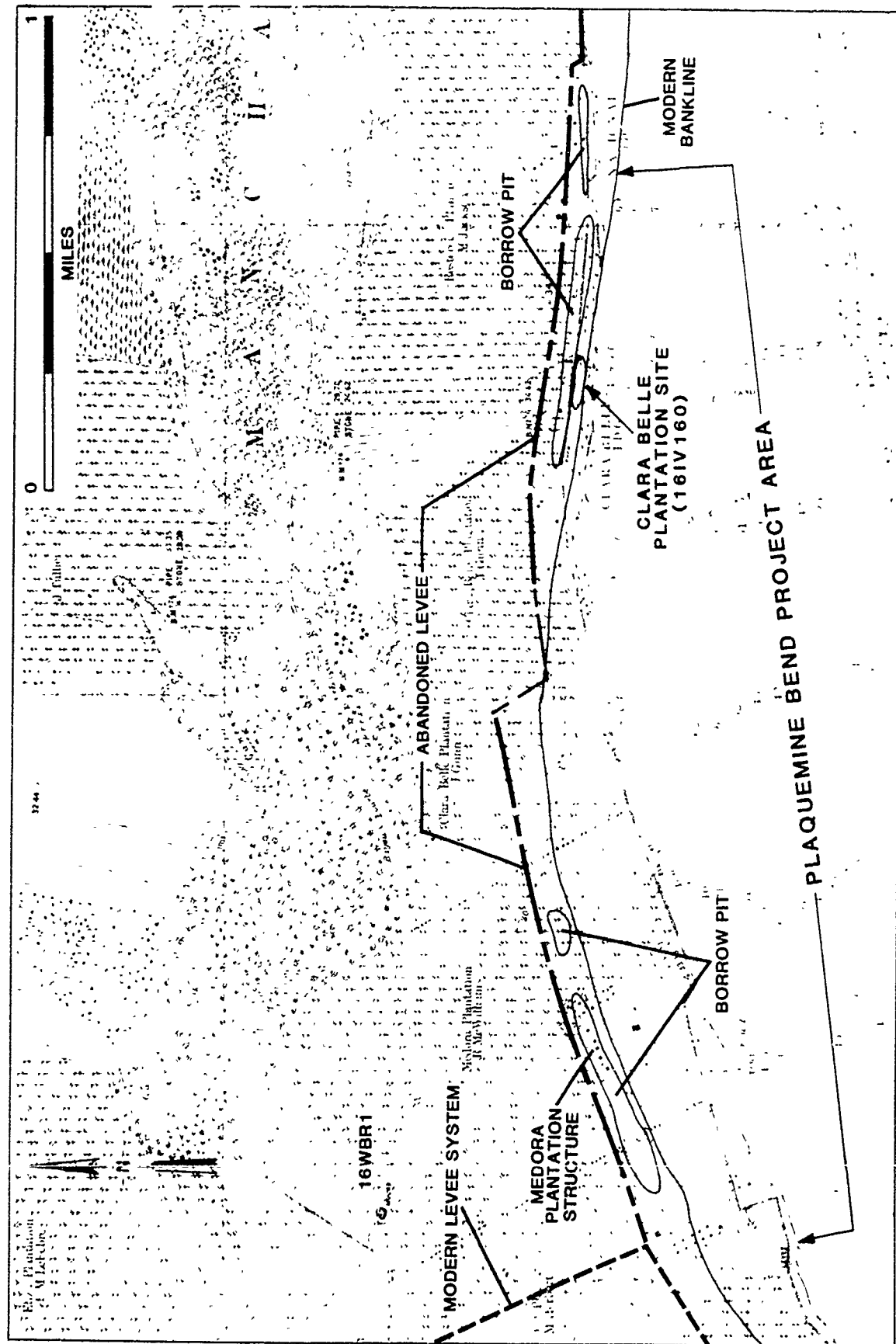


Figure 7. 1879-1880 Mississippi River Commission map, Chart 67, showing the plaquemine Bend Revestment Item project area, with locations of existing bankline, levees, and borrow pits (Louisiana Collection, Tulane University).

project area was located upriver from previous revetment construction, and no evidence of these revetments was observed.

CHAPTER III

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

Previous Cultural Resources Studies Near the Project Area

Several archeological investigations were conducted within the vicinity of the project area. For the purpose of this study, research concentrated on the natural levee of both banks of the Mississippi River, between River Miles 200 and 233, excluding the City of Baton Rouge. In 1951, Quimby (1951) reported on the Medora site (16WBR1), the type site for Plaquemine Culture. This excavation (1939-1940), conducted by the Louisiana State Archaeological Survey, was funded by the Louisiana State University and by the federal Works Projects Administration. The site, situated at the west end of Manchac Point, 1 km north of the Plaquemine Bend Reach, contained two prehistoric mounds separated by a plaza. Quimby concluded that the site was constructed by a previously undefined culture, which he named Plaquemine Culture (ca. prior to A.D. 1500-A.D. 1600); he also identified a subsequent Natchezan component (ca. A.D. 1600-A.D. 1750) (Quimby 1951). The reconstructed Mound A was mapped in the 1980s by Jones and Shuman (1987).

Shenkel (1976a) conducted an archeological survey on the east bank of the Mississippi River at Manchac Bend for the U.S. Army Corps of Engineers, New Orleans District. Shenkel identified and recorded three archeological sites: 16EBR40, 16IV126, and 16IV127. Site 16EBR40 consisted of a small *rangia* shell scatter from which a few prehistoric sherds were recovered. Site 16IV126 was located along the batture near Bayou Manchac, and was characterized by a scatter of shell, daub, and a few Marksville-Troyville period sherds. This site also included an ephemeral eighteenth century component; no in situ remains were observed. The final site, 16IV127, contained a few late Coles Creek sherds. Other than the aforementioned eighteenth century components, no historic sites were identified during the survey. One of these sites, 16EBR40, subsequently was tested by Coastal Environments, Inc. (Kelley 1988), and is discussed below.

Toth and Woodiel (1976) surveyed a proposed airport facility east of Manchac Bend, and adjacent to Bayou Manchac. During this pedestrian survey, one site, 16EBR38, was identified. This site consisted of refuse and debris from three ca. 1880-1940 houses. None of the components possessed the quality of significance; thus, no further work was recommended at 16EBR38.

Coastal Environments, Inc. (Glander and Gagliano 1977) surveyed a proposed borrow pit area on the east bank of the Mississippi River, across from Manchac Point. The Hollywood Plantation site (16EBR46), a midden deposit of late nineteenth and early twentieth century debris, was identified during this survey. While the site was not evaluated, Glander and Gagliano (1977) suggested that the site may be a significant cultural resource, and recommended that the proposed borrow pit be moved northward to avoid the site.

Coastal Environments, Inc. (Gagliano et al. 1977) tested the batture portion of the Woodstock Plantation site (16EBR35) prior to proposed revetment construction. During testing, the very disturbed remains of the plantation big house, and associated nineteenth century debris, were located. Because of its low archeological integrity, the batture portion of the site was found not to possess the quality of significance as defined by the National Register of Historic Places criteria, and no further testing was recommended.

Woodiel (1980a, 1980b) reported on salvage excavations at the St. Gabriel site (16IV128). These excavations were conducted by the Louisiana State Archaeologist's office prior to construction of a prison facility. Although the late Coles Creek-early Plaquemine Culture mound was excavated, construction prevented substantive testing at the adjacent village portion of the site. The mound overlaid the burned remains of a circular structure. Several burials were recovered from the mound, along with evidence of two structures and up to five mound building episodes. The site has been destroyed.

Tulane University (Yakubik et al. 1981) surveyed a portion of Plaquemine Point prior to construction of the proposed Manchac Oil Refinery. Several components of the nineteenth and twentieth century Forlorn Hope Plantation site (16IV138) were identified during the survey. Portions of the site were evaluated as potentially significant; however, these resources were located outside the proposed construction impact area. Further testing was recommended should the potentially significant resource become threatened.

R. Christopher Goodwin & Associates, Inc. (Goodwin, Gendel et al. 1983) tested the late nineteenth and early twentieth century Hollywood Plantation site (16EBR46). The study was conducted for the U.S. Army Corps of Engineers, New Orleans District, prior to planned revetment construction. During the testing, no significant in situ archeological deposits were located. Because of low archeological integrity and research potential, the site was not considered to possess the quality of significance as defined by the National Register of Historic Places criteria. No further work was recommended.

The National Park Service, Denver Service Center (Shafer and Clemensen 1983), surveyed a portion of the west bank, across the Mississippi River from Baton Rouge, prior to proposed revetment construction. This survey was conducted for the U.S. Army Corps of Engineers, New Orleans District. Those authors identified two archeological sites: 16WBR7 and 16WBR13. The previously recorded 16WBR7 represents the probable location of the Confederate ironclad warship *Arkansas*, which sank in 1862. The site originally was located through a magnetometer survey, although it has not been identified positively. Additional testing and site evaluation was recommended prior to revetment construction. The other site, 16WBR13, appeared to be the remains of an early twentieth century Missouri Pacific railroad trestle, which does not possess the quality of significance as defined by the National Register.

Another survey by the National Park Service, Denver Service Center (Shafer et al. 1984) was conducted prior to planned levee improvements on the east bank of the Mississippi River, near St. Gabriel. One site, 16IV142, was located during the survey. This site consisted of the concrete foundation remains of a possible late nineteenth to early twentieth century ferry dock or landing. Further testing was recommended to

evaluate site significance.

R. Christopher Goodwin & Associates, Inc. (Goodwin, Bruce et al. 1990) surveyed three levee enlargement and revetment construction items in Iberville Parish, Louisiana for the U.S. Army Corps of Engineers, New Orleans District. During the survey, four sites (16IV152-16IV155) were located and tested, and the previously identified site 16IV142 was tested. Three of the sites (16IV152, 16IV153, and 16IV155) consisted of historic artifact scatters and contained no in situ deposits. The fourth site, 16IV154, included a buried wooden board feature which possibly was associated with a sawmill. No substantive deposits were associated with the feature. Finally, the concrete foundation at 16IV142 lacked associated in situ remains. None of the five sites possessed the quality of significance as defined by National Register of Historic Places criteria; no further work was recommended.

Coastal Environments, Inc. (Kelley 1988) surveyed a portion of the east bank of the Mississippi River, north of Manchac Point, for the U.S. Army Corps of Engineers, New Orleans District, prior to planned revetment construction. Two sites (16EBR70 and 16EBR71) were identified, and two previously located sites (16EBR40 and 16EBR56) were examined. Site 16EBR70 consisted of the disturbed remains of a concrete machinery foundation. Site 16EBR71 contained late eighteenth through early twentieth century debris, and a small portion of an intact midden. Site 16EBR40 was interpreted as recently introduced road fill with no archeological integrity. Finally, 16EBR56 apparently was destroyed by borrow pit excavation; no trace of the site was located. None of these sites possessed the quality of significance as defined by National Register of Historic Places criteria, and no further testing was recommended.

A number of additional archeological surveys were conducted along the river. These include surveys by Neuman (1976); Shenkel (1976b); Gagliano (1977); Iroquois Research Institute (1982); and, Stuart and Greene (1983a, 1983b). None of these resulted in the identification of any archeological sites.

Previously Recorded Historic Sites Located Near the Project Area

Twenty-one historic archeological sites occur along the Mississippi River near revetment items situated between River Miles 200 and 233, excluding Baton Rouge. These sites, summarized on Table 1, date from the eighteenth through the early twentieth centuries, and reflect a wide range of cultural activities. Nine of these sites represent nineteenth and early twentieth century plantation remains. They range in complexity from domestic debris with little archeological integrity (16EBR35B, 16EBR46, and 16WBR9), to Cinclare Plantation (16WBR6), with its three historic standing structures and its high potential for containing intact archeological deposits. One of the sites, Australia Sugar Mill (16WBR8), contains the remains of a postbellum sugar mill. It is positioned toward the east end of Manchac Point. Six of these sites are potentially eligible for the National Register of Historic Places, and require further testing.

Table 1

PREVIOUSLY RECORDED HISTORIC ARCHEOLOGICAL SITES LOCATED NEAR THE PROJECT AREA*

<u>Site #</u>	<u>Site Name</u>	<u>Site Description</u>	<u>River Bank/Mile</u>	<u>Recorded By</u>	<u>National Register Eligibility</u>
16EBR35	Woodstock Plantation	19th c. sugar plantation remains.	Left, M. 215.1	Toth and Woodiel (1976)	Subsite A potentially eligible; Subsite B not eligible.
16EBR39	Gartness Plantation	19th c. sugar plantation remains.	Left, M. 227.6	Castille and Morgan (1976)	Not eligible.
16EBR41	Longwood Plantation	Historic plantation remains	Left, M. 216.1	Paige (1983)	Potentially eligible.
16EBR46	Hollywood Plantation	19th c. debris associated with sugar plantation.	Left, M. 218.2	Gendel (1984)	Not eligible
16EBR55	Fort Bute and English Manchac	Probable remains of ca. 1765 fort and settlement.	Left, M. 215.0	Paige (1983)	Potentially eligible.
16EBR56	Mission Church of the Nativity and Cemetery	Ca. 1910 - 1931 church and cemetery.	Left, M. 216.2	Paige (1983)	Not eligible.
16EBR57	Cottage Plantation	Historic plantation remains.	Left, M. 222.8	Paige (1983)	Potentially eligible
16EBR70	Manchac A	Late 19th - early 20th c. machine foundation.	Left, M. 216.7	Coastal Environments, Inc. (1988)	Not eligible.
16EBR71	Manchac B	Late 18th - early 20th c. domestic debris, in two concentrations.	Left, M. 216.9	Coastal Environments, Inc. (1988)	Not eligible.
16IV126	Mississippi River 214.9L	Late 18th c. historic scatter, prehistoric remains.	Left, M. 214.9	Shenkel (1976)	Not eligible.
16IV129	Masonic Hall	Foundation remains of probable 19th c. Masonic hall.	Right, M. 208.8	Castille (1977)	Unknown

<u>Site #</u>	<u>Site Name</u>	<u>Site Description</u>	<u>River Bank/Mile</u>	<u>Recorded By</u>	<u>National Register Eligibility</u>
16IV130	Plaquemine Lock	Early 20th c. canal lock.	Right, M. 208.9	Castile (n.d.)	Listed.
16IV138	Forom Hope Plantation	19th c. sugar plantation remains.	Left, M. 204.6	Yakubik (1981)	Potentially eligible.
16IV140	Spanish Post	Remains of possible 1767 Spanish fort.	Left, M. 214.9	Paige (1983)	Potentially eligible.
16IV142	S.G. #1	Possible remains of late 19th - early 20th c. ferry dock.	Left, M. 201.2	Flayharty et al. (1983)	Not eligible.
16IV159	Issac Ellison	Small early 20th c. cemetery, with one surviving gravestone.	Left, M. 214.2	Beckstrom and Rivet (1989)	Unknown.
16WBR6	Cinclare Plantation	19th and 20th c. sugar plantation, with at least three historic standing structures.	Right, M. 225.5	Unknown	Potentially eligible.
16WBR7	Arkansas	Probable remains of Confederate ironclad warship <u>Arkansas</u> .	Right, M. 232.6	Rivet (1981)	Potentially eligible.
16WBR8	Australia Sugar Mill	Late 19th and early 20th c. sugar mill remains.	Right, M. 216.4	Paige (1983)	Potentially eligible.
16WBR9	St. Mary's Plantation	Probable plantation house remains.	Right, M. 222.2	Paige (1983)	Probably not eligible.
16WBR13	Old Missouri Pacific Railroad trestle	Early 20th c. railroad trestle remains.	Right, M. 232.4	Shafer and Flayharty (1983)	Not eligible.

*Data from the State Site Files, Louisiana Division of Archaeology, Department of Culture, Recreation and Tourism, Baton Rouge, Louisiana.

In addition to plantation remains, several other types of archeological sites occur within the area. These include two important eighteenth century sites. The Fort Bute and English Manchac site (16EBR55) represent the probable remains of a ca. 1765 settlement situated just north of Bayou Manchac, and near the Mississippi River. The nearby Spanish Fort (16IV140), a ca. 1767 Spanish outpost, is located across Bayou Manchac from 16EBR55. Scaled map and bankline comparison are necessary to determine if these sites still exist. If they do, additional archeological testing is required at these potentially significant sites.

Other sites identified in the area include eighteenth through twentieth century domestic debris on the batture at 16EBR71; probable Confederate vessel remains (16WBR7); a Masonic hall foundation and debris (16IV129); a late nineteenth or early twentieth century machinery foundation (16EBR70) and possible ferry dock (16IV142); two twentieth century cemeteries (16EBR56 and 16IV159); a canal lock (16IV130); and, a railroad trestle (16WBR13). While most of these sites are not significant, further testing was recommended at 16WBR7, 16IV129, and 16IV159. In addition, Plaquemine Lock (16IV130), located in Plaquemine, is listed on the National Register of Historic Places.

CHAPTER IV

HISTORIC LAND USE

Introduction

This chapter reviews the cultural background of the project area, changing patterns of land ownership, and the impact of sugar cane cultivation on the smaller farms that developed within Plaquemine Bend and Missouri Bend. The effects of various national rivalries---French, British, Spanish, and American---on the development of this area are discussed, as are the effects of the American Civil War.

Archeological material was recovered from the Plaquemine Bend Reach. Land tenure records, levee data for Clara Belle Plantation, and artifact analyses indicate that the material dates from mid-nineteenth century occupation.

Repositories consulted in this research include the Louisiana Collection, Tulane University; the Louisiana State Land Office, Baton Rouge; the Iberville Parish Courthouse; the West Baton Rouge Parish Courthouse; and the Louisiana Department of Transportation, Office of Public Works, Baton Rouge. The range of sources used in this research include United States Government documents (e.g., census data, *American State Papers*); Parish records; historic maps; antebellum and post-Civil War reports on sugar production; and Parish resource surveys. In addition, standard scholarly secondary sources were consulted.

The Colonial Period

The farms of the Plaquemine Bend and the Missouri Bend project areas were comparatively modest, both in size and in socioeconomic status. Both areas were located on the west bank of the Mississippi River. In addition, both areas acted as focal points for international rivalries. Four countries, France, Spain, Britain, and the United States, at different times had conflicting interests and claims in the region. This is reflected by the diverse and multicultural makeup of and interaction between settlements.

The Plaquemine Bend Reach is located within the western part of historic Manchac. The first known settlers in the region arrived under the auspices of Great Britain, although a few scattered French or English frontiersmen probably settled the Plaquemine Bend area during the French colonial period (1699-1762). Emerging triumphant from the French and Indian War (1754-1763), the British officially established several outposts within the Plaquemine Bend area. In 1764, under the command of Major Arthur Loftus, a small British flotilla transporting approximately 350 soldiers was sent up the Mississippi River to establish two British forts. Fort Bute, was established at the confluence of the Mississippi River and Bayou Manchac; Fort Panmure, was constructed at Natchez. Once an official British presence was established, English colonists soon followed, most of them migrating from the North American interior. German and French families from Spanish Louisiana,

encouraged by the promise of free land and dismayed over economic conditions in Spanish Louisiana, also sought permission from the British to settle in Manchac (Dalrymple 1978:12).

To counter the growing size and presence of the English settlements, Spanish Governor Antonio de Ulloa established Fort St. Gabriel, along the eastern shore of present-day Ascension Parish, in 1775. The settlement later expanded upriver into Iberville Parish. Through Ulloa's efforts, the area was inhabited by French and Spanish soldiers, and by Acadian immigrants---farmers who also could serve as soldiers, if needed (Casey 1983:16-18; Rea 1968:125-137; Din 1978:183-211). Many of the earliest Plaquemine Bend and Missouri Bend settlers moved from Fort St. Gabriel or associated settlements located along the east bank of the Mississippi.

By 1774, the average Mississippi River settler in this region had cleared and cultivated approximately 2 arpents of property---the minimum amount required to apply for a Spanish land patent. The farmers of Plaquemine Bend and Missouri Bend cultivated crops suitable to the subtropical climate of south Louisiana, and found beans, corn, squash, rice, and cotton to be the most reliable. Hogs and chickens provided animal protein. Cattle also were raised, but in small numbers when compared to the quantities of beef raised in the Acadian *vacheries* of Attakapas and Opelousas.

Given their location and the problems associated with flooding, it was crucial that each settler build and maintain a levee. In fact, Governor Alejandro O'Reilly's Land Ordinance of 1770 required that each owner provide a sound levee and a river road, under penalty of land-grant revocation. The Ordinance further required that appropriate drainage ditches also be excavated to remove excess water.

A similar order by Corondelet to Verbois, dated August 10, 1792, read:

It is absolutely necessary to eradicate the prevailing abuse of not putting into immediate execution the order issued by Government thereupon; the last of which I render you responsible is, that within this year the levee shall be made: for which purpose you will give the ownership of the lands to those individuals who will undertake to make their levees without further order. You shall appoint you syndics, who, with yourself, may inspect and attend to the good condition of the levees, without having any other regard than to impartial justice (Lowrie and Franklin 1834:2:355).

Without an adequate supply of iron tools, such necessary labors as levee building, felling, and a wide variety of agricultural tasks became exhausting labor. Trade with the English at Manchac was necessary to satisfy the demand for manufactured products. The local farmers exchanged food products such as eggs, milk, pork and corn, for English goods--especially for cast-iron tools. Since trade with the English was illegal, local smugglers made their transactions by night, to evade Spanish guards housed at Fort St. Gabriel (Brasseaux 1987:131; Din 1978:203).

By the 1780s, riverfront properties situated within the Plaquemine Bend area were owned by French, English, Spanish and Acadian settlers. Despite the competing interests of these nations, Spanish and English settlers maintained stable and cordial relationships through trade, and sometimes through marriage. For example, the Spaniard Basticus Quidres, who in 1775 was issued the first land patent in the Plaquemine Bend survey area, later bequeathed his patent to an Englishman named William Henson, an action that clearly indicates the two had an ongoing business or personal relationship (Original Acts of Iberville Parish, Book A-1, Act 32, dated July 17, 1780, Iberville Parish Courthouse; Lowrie and Franklin 1834 vol 2:352; the 1780 Original Act, written in French, spelled Basticus Quidres as Bartie Quindre, and William Henson as William Hinason).

The first Acadian settlers in both the Plaquemine Bend and Missouri Bend project areas arrived via Fort St. Gabriel. Two names associated with the original Acadian settlers of Missouri Bend and Plaquemine Bend Reaches still are common today throughout Louisiana: Hebert and Landry.

The Heberts were descended from the Nova Scotia Heberts, who were exiled during the 1760s to Maryland before being expelled to Louisiana. In 1767, Francois Hebert, with his wife Marie-Joseph Trahan, and sons Jean-Baptiste and Charles, arrived in the Fort St. Gabriel Acadian farming community to work their Spanish land grant. In 1785, son Jean Baptiste Hebert married Marie Hebert, and together they founded the farming area in the upper Missouri Bend Reach known first as "Brule," and later as "Brusly." Jean Baptiste Hebert was a hunter, farmer, trader, and he acted as a spokesperson for his neighbors, and as a community leader for many years (Riffel et al. 1985:125). Other Heberts who owned tracts in the Missouri Bend area during the late Spanish and early American regimes were Belony, Alexis, Charles, James, and Victor. Belony and Alexis Hebert owned tracts upriver from Jean Baptiste (Sections 16 and 17). Charles Hebert, son of Jean Baptiste, owned the farm directly downriver from his father (Section 19). James Hebert owned a larger tract downriver from Charles where the Mississippi bends eastward (Section 27). Victor Hebert owned a smaller tract above James (Section 22). The Heberts also owned land in the Plaquemine Bend area. Amant Hebert, brother of Charles Hebert, owned the largest tract within the Plaquemine Bend vicinity (Section 91) (Figures 8 and 9).

Like the Heberts, the Landry family came to Fort St. Gabriel from Nova Scotia via Maryland, and then crossed the river to settle in Plaquemine Bend and Missouri Bend. The succession of Joseph Landry, dated November 12, 1781, stated that his daughter, Marie, married Diego Arnandez, who was granted the downriver tract from the aforementioned Basticus Quidres (Original Acts of Iberville Parish, Book A-2, Act 75, Iberville Parish Courthouse). Throughout the nineteenth century, descendants of Joseph Landry moved into the region. Since so many Landrys settled within the immediate area, it is difficult to follow them all. Riffel et al. state:

Among those who settled in present day Iberville Parish were at least seven Landry families. They were probably cousins, but we have no way of knowing their degree of kindred. However, their relationship must have

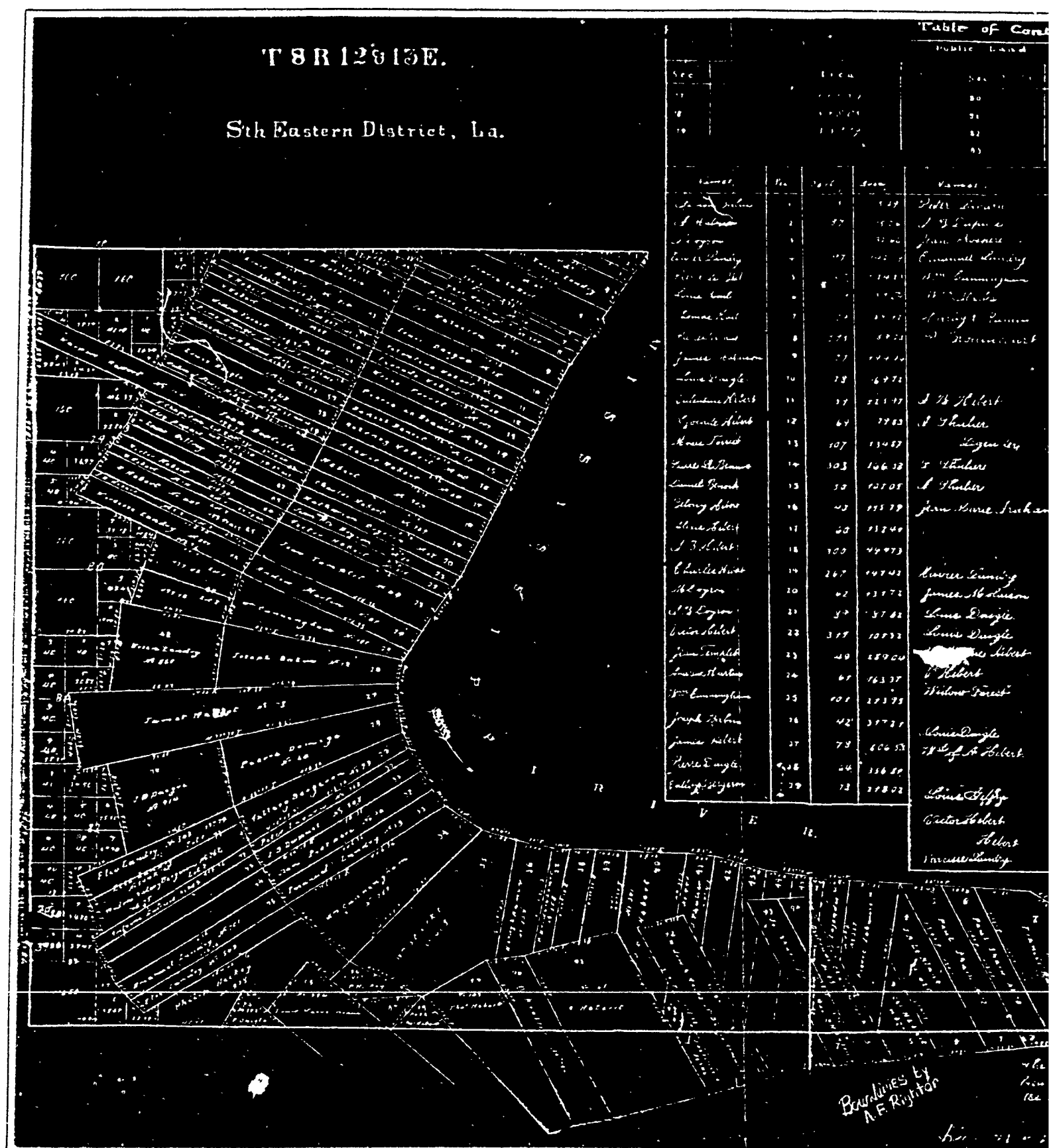


Figure 8. 1844 United States Land Claim Map showing properties in the project area (Louisiana Division of State Lands, Baton Rouge, Louisiana).

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PUBLIC LAND

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Name	Acres	Section	Name	Acres	Section	Name	Acres	Section
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John Smith	10	10	John Smith	19	174	John Smith	19	174
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John Smith	16	16	John Smith	25	180	John Smith	25	180
John Smith	17	17	John Smith	26	181	John Smith	26	181
John Smith	18	18	John Smith	27	182	John Smith	27	182
John Smith	19	19	John Smith	28	183	John Smith	28	183
John Smith	20	20	John Smith	29	184	John Smith	29	184
John Smith	21	21	John Smith	30	185	John Smith	30	185
John Smith	22	22	John Smith	31	186	John Smith	31	186
John Smith	23	23	John Smith	32	187	John Smith	32	187
John Smith	24	24	John Smith	33	188	John Smith	33	188
John Smith	25	25	John Smith	34	189	John Smith	34	189
John Smith	26	26	John Smith	35	190	John Smith	35	190
John Smith	27	27	John Smith	36	191	John Smith	36	191
John Smith	28	28	John Smith	37	192	John Smith	37	192
John Smith	29	29	John Smith	38	193	John Smith	38	193
John Smith	30	30	John Smith	39	194	John Smith	39	194
John Smith	31	31	John Smith	40	195	John Smith	40	195
John Smith	32	32	John Smith	41	196	John Smith	41	196
John Smith	33	33	John Smith	42	197	John Smith	42	197
John Smith	34	34	John Smith	43	198	John Smith	43	198
John Smith	35	35	John Smith	44	199	John Smith	44	199
John Smith	36	36	John Smith	45	200	John Smith	45	200
John Smith	37	37	John Smith	46	201	John Smith	46	201
John Smith	38	38	John Smith	47	202	John Smith	47	202
John Smith	39	39	John Smith	48	203	John Smith	48	203
John Smith	40	40	John Smith	49	204	John Smith	49	204
John Smith	41	41	John Smith	50	205	John Smith	50	205
John Smith	42	42	John Smith	51	206	John Smith	51	206
John Smith	43	43	John Smith	52	207	John Smith	52	207
John Smith	44	44	John Smith	53	208	John Smith	53	208
John Smith	45	45	John Smith	54	209	John Smith	54	209
John Smith	46	46	John Smith	55	210	John Smith	55	210
John Smith	47	47	John Smith	56	211	John Smith	56	211
John Smith	48	48	John Smith	57	212	John Smith	57	212
John Smith	49	49	John Smith	58	213	John Smith	58	213
John Smith	50	50	John Smith	59	214	John Smith	59	214
John Smith	51	51	John Smith	60	215	John Smith	60	215
John Smith	52	52	John Smith	61	216	John Smith	61	216
John Smith	53	53	John Smith	62	217	John Smith	62	217
John Smith	54	54	John Smith	63	218	John Smith	63	218
John Smith	55	55	John Smith	64	219	John Smith	64	219
John Smith	56	56	John Smith	65	220	John Smith	65	220
John Smith	57	57	John Smith	66	221	John Smith	66	221
John Smith	58	58	John Smith	67	222	John Smith	67	222
John Smith	59	59	John Smith	68	223	John Smith	68	223
John Smith	60	60	John Smith	69	224	John Smith	69	224
John Smith	61	61	John Smith	70	225	John Smith	70	225
John Smith	62	62	John Smith	71	226	John Smith	71	226
John Smith	63	63	John Smith	72	227	John Smith	72	227
John Smith	64	64	John Smith	73	228	John Smith	73	228
John Smith	65	65	John Smith	74	229	John Smith	74	229
John Smith	66	66	John Smith	75	230	John Smith	75	230
John Smith	67	67	John Smith	76	231	John Smith	76	231
John Smith	68	68	John Smith	77	232	John Smith	77	232
John Smith	69	69	John Smith	78	233	John Smith	78	233
John Smith	70	70	John Smith	79	234	John Smith	79	234
John Smith	71	71	John Smith	80	235	John Smith	80	235
John Smith	72	72	John Smith	81	236	John Smith	81	236
John Smith	73	73	John Smith	82	237	John Smith	82	237
John Smith	74	74	John Smith	83	238	John Smith	83	238
John Smith	75	75	John Smith	84	239	John Smith	84	239
John Smith	76	76	John Smith	85	240	John Smith	85	240
John Smith	77	77	John Smith	86	241	John Smith	86	241
John Smith	78	78	John Smith	87	242	John Smith	87	242
John Smith	79	79	John Smith	88	243	John Smith	88	243
John Smith	80	80	John Smith	89	244	John Smith	89	244
John Smith	81	81	John Smith	90	245	John Smith	90	245
John Smith	82	82	John Smith	91	246	John Smith	91	246
John Smith	83	83	John Smith	92	247	John Smith	92	247
John Smith	84	84	John Smith	93	248	John Smith	93	248
John Smith	85	85	John Smith	94	249	John Smith	94	249
John Smith	86	86	John Smith	95	250	John Smith	95	250
John Smith	87	87	John Smith	96	251	John Smith	96	251
John Smith	88	88	John Smith	97	252	John Smith	97	252
John Smith	89	89	John Smith	98	253	John Smith	98	253
John Smith	90	90	John Smith	99	254	John Smith	99	254
John Smith	91	91	John Smith	100	255	John Smith	100	255

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Figure 9. Original 1842 land claims map showing T9S R12E (Louisiana Division of State Lands, Baton Rouge, Louisiana).

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Public Land

Sec	Area	Sec	Area	Sec	Area	Sec	Area
41	78.53	42	56.53	72	1.150		
42	72.89	43	52.40	73	2.145	104	1.13
44	58.55	70	59.75	79	32.45	105	1.16
56	104.75	77	540.56	80	19.887	1	23.66
57	130.15	78	19.75	81	6.50.47	2	72.73
58	123.95	79	48.55	99	12.123		
59	97.58	80	105.75	100	7.451		
60	42.66	76					

Private Claims

Sec	Name	Acres	Sec	Name	Acres
1	Diego Hernandez	11.27	41	Mary Gordon	16.9
2	J. D. Walker	5.41	42	Thomas Hill	3.19
3	H. H. Hest	1.1	43	A. Schuman	209
4	P. H. Hest	1.13	44	A. L. L. L.	210
5	W. H. Hest	1.03	45	A. L. L. L.	211
6	W. H. Hest	1.03	46	A. L. L. L.	212
7	W. H. Hest	1.03	47	A. L. L. L.	213
8	W. H. Hest	1.03	48	A. L. L. L.	214
9	W. H. Hest	1.03	49	A. L. L. L.	215
10	W. H. Hest	1.03	50	A. L. L. L.	216
11	W. H. Hest	1.03	51	A. L. L. L.	217
12	W. H. Hest	1.03	52	A. L. L. L.	218
13	W. H. Hest	1.03	53	A. L. L. L.	219
14	W. H. Hest	1.03	54	A. L. L. L.	220
15	W. H. Hest	1.03	55	A. L. L. L.	221
16	W. H. Hest	1.03	56	A. L. L. L.	222
17	W. H. Hest	1.03	57	A. L. L. L.	223
18	W. H. Hest	1.03	58	A. L. L. L.	224
19	W. H. Hest	1.03	59	A. L. L. L.	225
20	W. H. Hest	1.03	60	A. L. L. L.	226
21	W. H. Hest	1.03	61	A. L. L. L.	227
22	W. H. Hest	1.03	62	A. L. L. L.	228
23	W. H. Hest	1.03	63	A. L. L. L.	229
24	W. H. Hest	1.03	64	A. L. L. L.	230
25	W. H. Hest	1.03	65	A. L. L. L.	231
26	W. H. Hest	1.03	66	A. L. L. L.	232
27	W. H. Hest	1.03	67	A. L. L. L.	233
28	W. H. Hest	1.03	68	A. L. L. L.	234
29	W. H. Hest	1.03	69	A. L. L. L.	235
30	W. H. Hest	1.03	70	A. L. L. L.	236
31	W. H. Hest	1.03	71	A. L. L. L.	237
32	W. H. Hest	1.03	72	A. L. L. L.	238
33	W. H. Hest	1.03	73	A. L. L. L.	239
34	W. H. Hest	1.03	74	A. L. L. L.	240
35	W. H. Hest	1.03	75	A. L. L. L.	241
36	W. H. Hest	1.03	76	A. L. L. L.	242
37	W. H. Hest	1.03	77	A. L. L. L.	243
38	W. H. Hest	1.03	78	A. L. L. L.	244
39	W. H. Hest	1.03	79	A. L. L. L.	245
40	W. H. Hest	1.03	80	A. L. L. L.	246
41	W. H. Hest	1.03	81	A. L. L. L.	247
42	W. H. Hest	1.03	82	A. L. L. L.	248
43	W. H. Hest	1.03	83	A. L. L. L.	249
44	W. H. Hest	1.03	84	A. L. L. L.	250
45	W. H. Hest	1.03	85	A. L. L. L.	251
46	W. H. Hest	1.03	86	A. L. L. L.	252
47	W. H. Hest	1.03	87	A. L. L. L.	253
48	W. H. Hest	1.03	88	A. L. L. L.	254
49	W. H. Hest	1.03	89	A. L. L. L.	255
50	W. H. Hest	1.03	90	A. L. L. L.	256
51	W. H. Hest	1.03	91	A. L. L. L.	257
52	W. H. Hest	1.03	92	A. L. L. L.	258
53	W. H. Hest	1.03	93	A. L. L. L.	259
54	W. H. Hest	1.03	94	A. L. L. L.	260
55	W. H. Hest	1.03	95	A. L. L. L.	261
56	W. H. Hest	1.03	96	A. L. L. L.	262
57	W. H. Hest	1.03	97	A. L. L. L.	263
58	W. H. Hest	1.03	98	A. L. L. L.	264
59	W. H. Hest	1.03	99	A. L. L. L.	265
60	W. H. Hest	1.03	100	A. L. L. L.	266
61	W. H. Hest	1.03	101	A. L. L. L.	267
62	W. H. Hest	1.03	102	A. L. L. L.	268
63	W. H. Hest	1.03	103	A. L. L. L.	269
64	W. H. Hest	1.03	104	A. L. L. L.	270
65	W. H. Hest	1.03	105	A. L. L. L.	271
66	W. H. Hest	1.03	106	A. L. L. L.	272
67	W. H. Hest	1.03	107	A. L. L. L.	273
68	W. H. Hest	1.03	108	A. L. L. L.	274
69	W. H. Hest	1.03	109	A. L. L. L.	275
70	W. H. Hest	1.03	110	A. L. L. L.	276
71	W. H. Hest	1.03	111	A. L. L. L.	277
72	W. H. Hest	1.03	112	A. L. L. L.	278
73	W. H. Hest	1.03	113	A. L. L. L.	279
74	W. H. Hest	1.03	114	A. L. L. L.	280
75	W. H. Hest	1.03	115	A. L. L. L.	281
76	W. H. Hest	1.03	116	A. L. L. L.	282
77	W. H. Hest	1.03	117	A. L. L. L.	283
78	W. H. Hest	1.03	118	A. L. L. L.	284
79	W. H. Hest	1.03	119	A. L. L. L.	285
80	W. H. Hest	1.03	120	A. L. L. L.	286
81	W. H. Hest	1.03	121	A. L. L. L.	287
82	W. H. Hest	1.03	122	A. L. L. L.	288
83	W. H. Hest	1.03	123	A. L. L. L.	289
84	W. H. Hest	1.03	124	A. L. L. L.	290
85	W. H. Hest	1.03	125	A. L. L. L.	291
86	W. H. Hest	1.03	126	A. L. L. L.	292
87	W. H. Hest	1.03	127	A. L. L. L.	293
88	W. H. Hest	1.03	128	A. L. L. L.	294
89	W. H. Hest	1.03	129	A. L. L. L.	295
90	W. H. Hest	1.03	130	A. L. L. L.	296
91	W. H. Hest	1.03	131	A. L. L. L.	297
92	W. H. Hest	1.03	132	A. L. L. L.	298
93	W. H. Hest	1.03	133	A. L. L. L.	299
94	W. H. Hest	1.03	134	A. L. L. L.	300
95	W. H. Hest	1.03	135	A. L. L. L.	301
96	W. H. Hest	1.03	136	A. L. L. L.	302
97	W. H. Hest	1.03	137	A. L. L. L.	303
98	W. H. Hest	1.03	138	A. L. L. L.	304
99	W. H. Hest	1.03	139	A. L. L. L.	305
100	W. H. Hest	1.03	140	A. L. L. L.	306
101	W. H. Hest	1.03	141	A. L. L. L.	307
102	W. H. Hest	1.03	142	A. L. L. L.	308
103	W. H. Hest	1.03	143	A. L. L. L.	309
104	W. H. Hest	1.03	144	A. L. L. L.	310
105	W. H. Hest	1.03	145	A. L. L. L.	311
106	W. H. Hest	1.03	146	A. L. L. L.	312
107	W. H. Hest	1.03	147	A. L. L. L.	313
108	W. H. Hest	1.03	148	A. L. L. L.	314
109	W. H. Hest	1.03	149	A. L. L. L.	315
110	W. H. Hest	1.03	150	A. L. L. L.	316
111	W. H. Hest	1.03	151	A. L. L. L.	317
112	W. H. Hest	1.03	152	A. L. L. L.	318
113	W. H. Hest	1.03	153	A. L. L. L.	319
114	W. H. Hest	1.03	154	A. L. L. L.	320
115	W. H. Hest	1.03	155	A. L. L. L.	321
116	W. H. Hest	1.03	156	A. L. L. L.	322
117	W. H. Hest	1.03	157	A. L. L. L.	323
118	W. H. Hest	1.03	158	A. L. L. L.	324
119	W. H. Hest	1.03	159	A. L. L. L.	325
120	W. H. Hest	1.03	160	A. L. L. L.	326
121	W. H. Hest	1.03	161	A. L. L. L.	327
122	W. H. Hest	1.03	162	A. L. L. L.	328
123	W. H. Hest	1.03	163	A. L. L. L.	329
124	W. H. Hest	1.03	164	A. L. L. L.	330
125	W. H. Hest	1.03	165	A. L. L. L.	331
126	W. H. Hest	1.03	166	A. L. L. L.	332
127	W. H. Hest	1.03	167	A. L. L. L.	333
128	W. H. Hest	1.03	168	A. L. L. L.	334
129	W. H. Hest	1.03	169	A. L. L. L.	335
130	W. H. Hest	1.03	170	A. L. L. L.	336
131	W. H. Hest	1.03	171	A. L. L. L.	337
132	W. H. Hest	1.03	172	A. L. L. L.	338
133	W. H. Hest	1.03	173	A. L. L. L.	339
134	W. H. Hest	1.03	174	A. L. L. L.	340
135	W. H. Hest	1.03	175	A. L. L. L.	341
136	W. H. Hest	1.03	176	A. L. L. L.	342
137	W. H. Hest	1.03	177	A. L. L. L.	343
138	W. H. Hest	1.03	178	A. L. L. L.	344
139	W. H. Hest	1.03	179	A. L. L. L.	345
140	W. H. Hest	1.03	180	A. L. L. L.	346
141	W. H. Hest	1.03	181	A. L. L. L.	347
142	W. H. Hest	1.03	182	A. L. L. L.	348
143	W. H. Hest	1.03	183	A. L. L. L.	349
144	W. H. Hest	1.03	184	A. L. L. L.	350
145	W. H. Hest	1.03	185	A. L. L. L.	351
146	W. H. Hest	1.03	186	A. L. L. L.	352
147	W. H. Hest	1.03	187	A. L. L. L.	353
148	W. H. Hest	1.03	188	A. L. L. L.	354
149	W. H. Hest	1.03	189	A. L. L. L.	355
150	W. H. Hest	1.03	190	A. L. L. L.	356
151	W. H. Hest	1.03	191	A. L. L. L.	357
152	W. H. Hest	1.03	192	A. L. L. L.	358
153	W. H. Hest	1.03	193	A. L. L. L.	359
154	W. H. Hest	1.03	194	A. L. L. L.	360
155	W. H. Hest	1.03	195	A. L. L. L.	361
156	W. H. Hest	1.03	196	A. L. L. L.	362
157	W. H. Hest	1.03	197	A. L. L. L.	363
158	W. H. Hest	1.03	198	A. L. L. L.	364
159	W. H. Hest	1.03	199	A. L. L. L.	365
160	W. H. Hest	1.03	200	A. L. L. L.	366
161	W. H. Hest	1.03	201	A. L. L. L.	367
162	W. H. Hest	1.03	202	A. L. L. L.	368
163	W. H. Hest	1.03	203	A. L. L. L.	369
164	W. H. Hest	1.03	204	A. L. L. L.	370
165	W. H. Hest	1.03	205	A. L. L. L.	371
166	W. H. Hest	1.03	206	A. L. L. L.	372
167	W. H. Hest	1.03	207	A. L. L. L.	373
168	W. H. Hest	1.03	208	A. L. L. L.	374
169	W. H. Hest	1.03	209	A. L. L. L.	375
170	W. H. Hest	1.03	210	A. L. L. L.	376
171	W. H. Hest	1.03	211	A. L. L. L.	377
172	W. H. Hest	1.03	212	A. L. L. L.	378
173	W. H. Hest	1.03	213	A. L. L. L.	379
174	W. H. Hest	1.03	214	A. L. L. L.	380
175	W. H. Hest	1.03	215	A. L. L. L.	381
176	W. H. Hest	1.03	216	A. L. L. L.	382
177	W. H. Hest	1.03	217	A. L. L. L.	383
178	W. H. Hest	1.03	218	A. L. L. L.	384
179	W. H. Hest	1.03	219	A. L. L. L.	385
180	W. H. Hest	1.03	220	A. L. L. L.	386
181	W. H. Hest	1.03	221	A. L. L. L.	387
182	W. H. Hest	1.03	222	A. L. L. L.	388
183	W. H. Hest	1.03	223	A. L. L. L.	389
184	W. H. Hest	1.03	224	A. L. L. L.	390
185	W. H. Hest	1.03	225	A. L. L. L.	391
186	W. H. Hest	1.03	226	A. L. L. L.	392
187	W. H. Hest	1.03	227	A. L. L. L.	393
188	W. H. Hest	1.03	228	A. L. L. L.	394
189	W. H. Hest	1.03	229	A. L. L. L.	395
190	W. H. Hest	1.03	230	A. L. L. L.	396
191	W. H. Hest	1.03	231	A. L. L. L.	397
192	W. H. Hest	1.03	232	A. L. L. L.	398
193	W. H. Hest	1.03	233	A. L. L. L.	399
194	W. H. Hest	1.03	234	A. L. L. L.	400
195	W. H. Hest	1.03	235	A. L. L. L.	401
196	W. H. Hest	1.03	236	A. L. L. L.	402
197	W. H. Hest	1.03	237	A. L. L. L.	403
198	W. H. Hest	1.03	238	A. L. L. L.	404
199	W. H. Hest	1.03	239	A. L. L. L.	405
200	W. H. Hest	1.03	240	A. L. L. L.	406
201	W. H. Hest	1.03	241	A. L. L. L.	407
202	W. H. Hest	1.03	242	A. L. L. L.	408
203	W. H. Hest	1.03	243	A. L. L. L.	409
204	W. H. Hest	1.03	244	A. L. L. L.	410
205	W. H. Hest	1.03	245	A. L. L. L.	411
206	W. H				

been distant, as there are many marriages recorded of Landry with Landry (Riffel et al. 1985:142).

The number of Landrys owning property in or near the Missouri Bend Reach became more numerous during the antebellum period. The most notable of these was Pierre Joseph Landry, son of the father of the same name, and of Marie Joseph Hebert, daughter of Charles Hebert. During the early nineteenth century, Pierre Joseph, a leading planter and a military figure, resided in the upper Missouri Bend area. He served as a lieutenant in Meriam's Militia in 1810, and led the 8th Regiment in defense of New Orleans in 1812. His father, Pierre Joseph Landry, and descendants, Camille, and Landry Landry, owned land in the Plaquemine Bend Reach (Riffel et al. 1985:274).

Besides the Heberts and the Landrys, other Acadian families associated with settlers of the Missouri Bend area during the late eighteenth century include Matthew Doryon (Section 20), John Doryon (Section 21), Jean Templet (Section 23), and Andrew Martin (Section 24). Although largely settled by Acadians, the downriver section of the Missouri Bend Reach was claimed by an Englishman--William Cunningham (Section 25) (Figure 8) (United States Land Claims 1844).

Several factors helped shape the changing pattern of land tenure within the project area. Among the most important of these were the use of the arpent system and the Spanish forced-heirship laws of Louisiana. Under the arpent system, each settler obtained a certain amount of riverfront property. The settler's riverfront portion was marked off in arpents (1 arpent is approximately 192 ft). Usually, the settler's property extended back 40 arpents from the river (Newton 1987:212-214). Properties in Plaquemine Bend and Missouri Bend generally measured 5 to 6 arpents front. As the population of these settlements increased (an increase which, after 1770, was due almost exclusively to family growth rather than immigration), the Spanish forced-heirship laws caused 5 to 6 arpent front properties to be subdivided into progressively narrower strips. Many descendants subsequently moved away to live along Bayous Lafourche, Plaquemine, and Terrebonne. By the time of the Louisiana Purchase, most of the Acadian Coast Mississippi River claims were less than 2 arpents front (Lowrie and Franklin 1834:2:249).

The arpent system and the Spanish heirship laws were not the only factors that influenced landownership patterns in this region; the shifting claims of various nations also played a part. After the British lost their West Florida territories, English landholding titles in Spanish Louisiana no longer were recognized. Andrew Ellicott, an American travelling in Louisiana in 1796, reported on the Natchez and Manchac English inhabitants, and their concerns over their property claims:

There is yet one other source of uneasiness among the inhabitants, and which relates to their titles. It appears that much the greater part of the lands now occupied, are covered by old British grants. The occupiers of those lands may be divided into two classes. First, those who continued in

the country after its conquest by the Spaniards, and renewed their titles under his Catholic Majesty, and secondly, those who are seated on old British grants, which became forfeited to the crown of Spain by their owners or attornies, not appearing, and occupying them agreeably to the tenor of two proclamations or edicts, issued by his Catholic majesty; the one dated in 1786, but whether this was first or last, I am unable to say, as I have not yet been able to procure either of them. The lands thus forfeited, have been granted by the officers of his Catholic Majesty, in the same manner, as practiced in granting vacant lands. This class of settlers may be considered as composing the body of the settlement. With respect to the first class, there cannot possibly be any doubt as to the validity of their titles: and the second, upon the principles of justice and equity, are perhaps equally safe; but they have their fears, and are therefore desirous that an act of congress may be passed confirming all their titles, that were good under the crown of Spain, at the time of the final ratification of the late treaty (Ellicott 1803:154).

Many English Louisianians, including those located within the project area, thus were able to obtain Spanish land patents.

After the United States acquired Louisiana, the United States Government initiated a systematic survey to settle land ownership claims in Louisiana. The survey, begun in 1812, took many years to complete. Each landowner was required to prove ownership either by producing a Spanish land patent, or by providing proof of extended habitation or cultivation of his/her property. The first United States ownership survey of the project area was completed in 1837. Although Acadian and British claimants within the project area were granted confirmation of ownership by the United States, adjustments were made. Jean-Baptiste Hebert in Missouri Bend, for example, claimed 6 arpents front by over 80 arpents deep (Township 8S, Range 12E, Section 18) (Figure 8). However, the extensive arpent depth claimed by J. B. Baptiste eventually was rejected by the United States Surveyor General's Office (Lowrie and Franklin 1834:2:372). Amant Hebert, of Plaquemine Bend, owned approximately 12 arpents front and his claim extended 40 arpents deep. The tracts of Amant Hebert (Section 91), and his upriver neighbors, Oliver Brosset (Section 92), and Madame Henson (Section 93), were granted by the United States Surveyor General's Office, but at the expense of other owners' overlapping backacreage (Figure 8).

Other Plaquemine Bend owners who were granted United States land patents within the project area (Township 8 South, Range 12 East) included the widow and heirs of Diego Arnandez (Section 92), Gertrude Clinepeter (Section 94), A. Thullier (Section 44), and Jean Marie Trahan (Section 45) (Lowrie and Franklin 1834:2:249-275). Land patterns confirmed in Township 8 South, Range 13 East, included those issued to Paul Sharp (Sections 5 and 6), and part of the land owned by Francis Kachet situated within the upriver portion of the Plaquemine Bend Reach (Section 5) (Figure 8).

The Antebellum Period

During the early colonial period, indigo was Louisiana's most important export crop. Late in the colonial era, however, indigo became less and less sustainable, due to the spread of severe crop disease. Louisiana planters, therefore, turned to a substitute cash crop, sugar cane, a crop grown successfully in Louisiana for some fifty years. The attractiveness of sugar cane greatly increased as problems associated with indigo cultivation became more pronounced, and as advances in the sugar refining process made Louisiana cane more competitive in the world market. Whereas cane originally had been used to produce syrup for local use, during the antebellum period it was processed into sugar for export. The cultivation of sugar cane boomed during the nineteenth century, and by the 1850s approximately 1500 sugar plantations were scattered throughout Louisiana (Kniffen and Hilliard 1988:136-7).

Because of the expense of processing equipment and the need for intensive labor, the cultivation of sugar cane favored large planters, who benefited from economies of scale. Many of the smaller farmers who settled along the Acadian Coast found themselves unable to compete with the larger sugar plantations, and they moved from the area. Nevertheless, several farmers of Plaquemine Bend and Missouri Bend adapted to the enormous agricultural changes brought on by the success of the sugar industry (Kniffen and Hilliard 1988:136-137). Many of these farmers formed partnerships to obtain the expensive sugar processing equipment. They continued their cooperative sugar ventures well into the nineteenth century.

Four sugar plantations of moderate size existed along the southern shore of Manchac Point during the antebellum period (Figures 8). The Amant Hebert tract was inherited by son Michel Hebert from his mother in the early nineteenth century. Between 1851 and 1861, Michel Hebert and Co. averaged nearly 300 hogsheads of sugar a year (Bouchereau and Bouchereau 1868-1917). The Diego Arnandez tract was acquired by Joseph Simon Dupuy in 1781 (Original Acts of Iberville Parish, Book A-5, Act 17, Iberville Parish Courthouse). Baltazar Dupuy took control of the land during the first half of the nineteenth century. Edward D. Woods purchase the Henson tract in the Plaquemine Bend Reach. Woods went into partnership with Colonel Reams (Rhims, Rheams) in 1843. Except for the flood years of 1856 and 1857, their annual sugar yields from 1845 to 1861 averaged approximately 160 hogsheads a year. The lands of Paul Sharp and Francis Kachet were purchased by Camille Landry, and Landry Landry, respectively. In the Missouri Bend Reach, some of the longest running sugar establishments before the Civil War were operated by Jean Dorian and Sons and Others, Valentine Hebert and Co., Labauve, Landry and Hebert, John T. Bird and Co., and Kirkland and Williams.

All of the Plaquemine Bend sugar planters consistently produced sugar during the antebellum nineteenth century. Like the larger planters located downriver, each of the Plaquemine Bend sugar-cane farmers installed steam engines to power their mills. The fact that they availed themselves of the latest technology indicates their determination to be fully competitive in the sugarcane industry. Nevertheless, their yields consistently were overshadowed by those of the large plantations just 10 miles downriver. While annual sugar yields for farmers located along Plaquemine Bend rarely exceeded 300 hogsheads

per annum for the years 1844 to 1861, the large downriver planters averaged over 1500 hogsheads per annum (Champomier 1844-1861).

In the Missouri Bend Reach, some of the longest running sugar establishments before the Civil War were operated by Jean Dorian and Sons and Others, Valentine Hebert and Co., Labauve, Landry and Hebert, John T. Bird and Co., and Kirkland and Williams.

It was crucial to the success of these sugar farms that strong protective levees be maintained. It was not until well after the Civil War that levee building was coordinated by the Federal government, so the responsibility and expense of levee maintenance fell upon each individual riverfront property owner. This fact alone put smaller farmers at a great disadvantage, for the upkeep of the levees was a constant demand upon the farmer's resources. During the nineteenth century Plaquemine Bend planters experienced difficulty maintaining levees, since the Mississippi progressively washed away acres of riverfront land in lower Manchac Point.

The maintenance of levees was so important that a prospective owner could establish his claim to a tract of land solely by improving the tract's levee and road. The Plaquemines F and plantation of Amant Hebert, for example, was granted the Section 19 tract under such circumstances. The confirmation of the grant states:

Thomas Hebert claims a tract of land, situated on the west side of the river Mississippi, in the county of Iberville and district of Manchack [sic], containing two arpents and 140 ft front, and forty arpents in depth, and bounded on one side by Deny Landry, and on the other by land of Joseph Arnandez.

The Claimant was put in possession of this tract of land by Nicolas de Verbois, at the time commandant, conformably to an order of the Baron de Corondelet, in the year 1792; and having complied with the condition thereof, to wit, the road and levee, has become entitled to the land under said order (Lowrie and Franklin 1834:2:355).

The consistent sugar yields in the project area during the antebellum nineteenth century testify to the security of the levees maintained at that time (Champomier 1844-1861).

Along with changes caused by the sugar cane boom, Plaquemine Bend and Missouri Bend also experienced an increase in the black and mulatto population. Free blacks purchased at least one tract during the late colonial period; Paul and Julien were given their freedom and a land title by Pedro Peros in 1774 for land situated directly upriver from the Missouri Bend Reach (Lowrie and Franklin 1834:2:351). By 1810, 20 free blacks lived in the Plaquemine area of Iberville Parish (U.S. Government 1810). However, slaves account for most of the increase in the black population. Some of the earliest slaveholding cane planters in the study region were the Heberts, who owned numerous

tracts along Missouri Bend and Plaquemine Bend during the antebellum nineteenth century.

Many of the second-generation Acadian Coast farmers in the project region owned slaves; the sugar cane business created a constant demand for additional field labor, even on modest farms. The census data indicate, for example, that in 1810, 33 families lived within the Plaquemine area, 19 of whom owned a total of 144 slaves. By 1830, 134 slaves lived within the village of Plaquemines, as did 180 whites, and seven free blacks. For the entire Western District of Iberville Parish, 3,367 slaves, 1,448 whites, and 130 free blacks were recorded (U.S. Government 1810, 1830). The living arrangements for one or two slaves working on such small farmsteads differed markedly from the larger slave communities found on the bigger plantations. Characteristically, female slaves lived in the farmstead residence, while male field-hand slaves lived in the barn area (Book A-1, Act 75, Book N, Act 337, Iberville Parish Courthouse; Woods vs Woods, Docket no. 362, West Baton Rouge Parish Courthouse).

The Postbellum Period

The Civil War marked the beginning of a dramatic decline in sugar production within the study area. Aside from the obvious social and economic devastation thrust upon the Southern states by the war, the study area experienced other, more specific problems inhibiting the revival of sugar-cane agriculture. The high capital costs of heavily financed agricultural equipment, as well as the expensive and time-consuming task of levee building, pushed many plantations into bankruptcy, making bank foreclosures and sheriff's sales commonplace. This created excellent opportunities for prospective buyers to acquire plantations at bargain prices; and, most of the postbellum sugar farms in the project area passed into the hands of new owners. Most of these smaller sugar estates never were able to reestablish the efficiency and profitability of their antebellum predecessors. The documented yields of the planters at Brusly Landing illustrate the collapse of sugar production: J.B. Labauve, from 145 hogsheads in 1861-1862, to no documented yield in 1869-1870; R. Hebert and Co., from 250 hogsheads to 60; Treville Landry and Co., from 60 to no documented yield; J. W. Burbridge, from 395 to no documented yield; Joseph Walker, from 280 to no documented yield; T.W. Bird, from 800 to 68 hogsheads; the heirs of N. Landry, from 200 to no documented yield; and, B. Cazes, from 90 to 38 hogsheads. Of the twenty sugar planters listed in the Brusly Landing area for 1869-1870, not one approached pre-war levels of production (Bouchereau and Bouchereau 1868-1917). Only John T. Bird, whose plantation was situated within the Missouri Bend Reach, managed to achieve some semblance of pre-war production levels. In the Plaquemine area, Lewis E. Woods, Henry H. Martin, and Mitchel Jackson purchased lands and attempted sugar agriculture. However, annual sugar production data between 1869 and 1917 reported no yields for sugar estates located within the Plaquemine area; persistent flooding brought on by inadequate levees probably caused these low yields (Bouchereau and Bouchereau 1868-1917).

Baltazar Dupuy sold his land to A. Woods on April 4, 1866 (Book 8, Act 214, Iberville Parish Courthouse). But in the years immediately after the war, overbank flooding

defeated all efforts to restore the valuable Dupuy estate. When A. Woods purchased the property from Baltazar Dupuy in 1866, the land and improvements included:

twenty three mules, three old horses, one blind mare, two colts, thirteen head of horned cattle, fifteen hogs, twenty sheep, forty ploughs, and gears, two harrows, three flukes, seven horse carts, two ox carts, four bagasse carts, one set of blacksmith tools, one lot of carpenter tools, one lot of hoes, spades, and axes, one pair of scales, one hundred and fifty cords of firewood, sixty sugar hogsheads, fifty molasses barrels, a lot of staves and hoops, a lot of old iron, lot of hides in tan, three barrels of lime on turning laithe and tools, twelve cross cut saws, three mill saws, a lot of saw logs, a lot of pickets and posts, a lot of log chaws, a lot of blocks and tackles, and fall. One iron windlap, a lot of ropes, and cable, seed cane sufficient to plant fifty or sixty acres, one old pair timber wheels, ax chains and yokes, and a lot of bricks for the amount sum of \$13,950.00 [sic throughout] (Book 8, Act 214, Iberville Parish Courthouse).

Between 1868 and 1876, Lewis E. Woods owned the Dupuy Plantation, which he renamed "Medora." During Woods's tenure, Medora had a brick with shingle-roof sugar house and a steam mill, with a closed kettle system; its sugar output was low. Sugar production at Medora virtually ceased after Woods sold the land to Roth and McWilliams in 1876 (Bouchereau and Bouchereau 1868-1917) (Figures 7 and 10).

H. H. Martin acquired most of the old Rheamsland Plantation property owned by Edward D. Woods. In 1856, Woods bought Colonel Rheam's share from his widow, Mrs. Elza J. Rheams. After the war (1866), Woods in turn sold the upper half of his estate to O. A. Pierce and H. Ruty at a sheriff's auction. Martin purchased the Pierce and Ruty property in 1867, and added more of Woods's downriver Rheamsland frontage. Martin's plantation, which measured 7 3/4 arpents front, was named "Clara Belle" (Figures 7 and 10).

The available documentation indicates that the once-productive Reams and Woods sugar plantation never recovered during Reconstruction. Despite the fact that O.A. Pierce installed the Escudier steam sugar mill in the wood sugar house (Bouchereau and Bouchereau 1868-1917), there were no documented sugar yields between 1869 and 1876. When Henry H. Hebert purchased this property, its value had dropped precipitously; the sale of improvements included only: "one mule, one bagasse cart, one little mare, and fifty cords of wood more or less" (Book 9, Act 44, Iberville Parish Courthouse). In 1877, only eight hogsheads of sugar were produced at Clara Belle. Between 1878 and 1880, there were no documented yields. Finally, in 1881, Mitchell Jackson, owner of the upriver Resterege Plantation, operated the failing Clara Belle Plantation for Henry H. Martin's daughter, Clara Martin. Throughout the 1880s, Mitchell Jackson produced only small yields at his downriver Resterege Plantation, and little at Clara Belle.

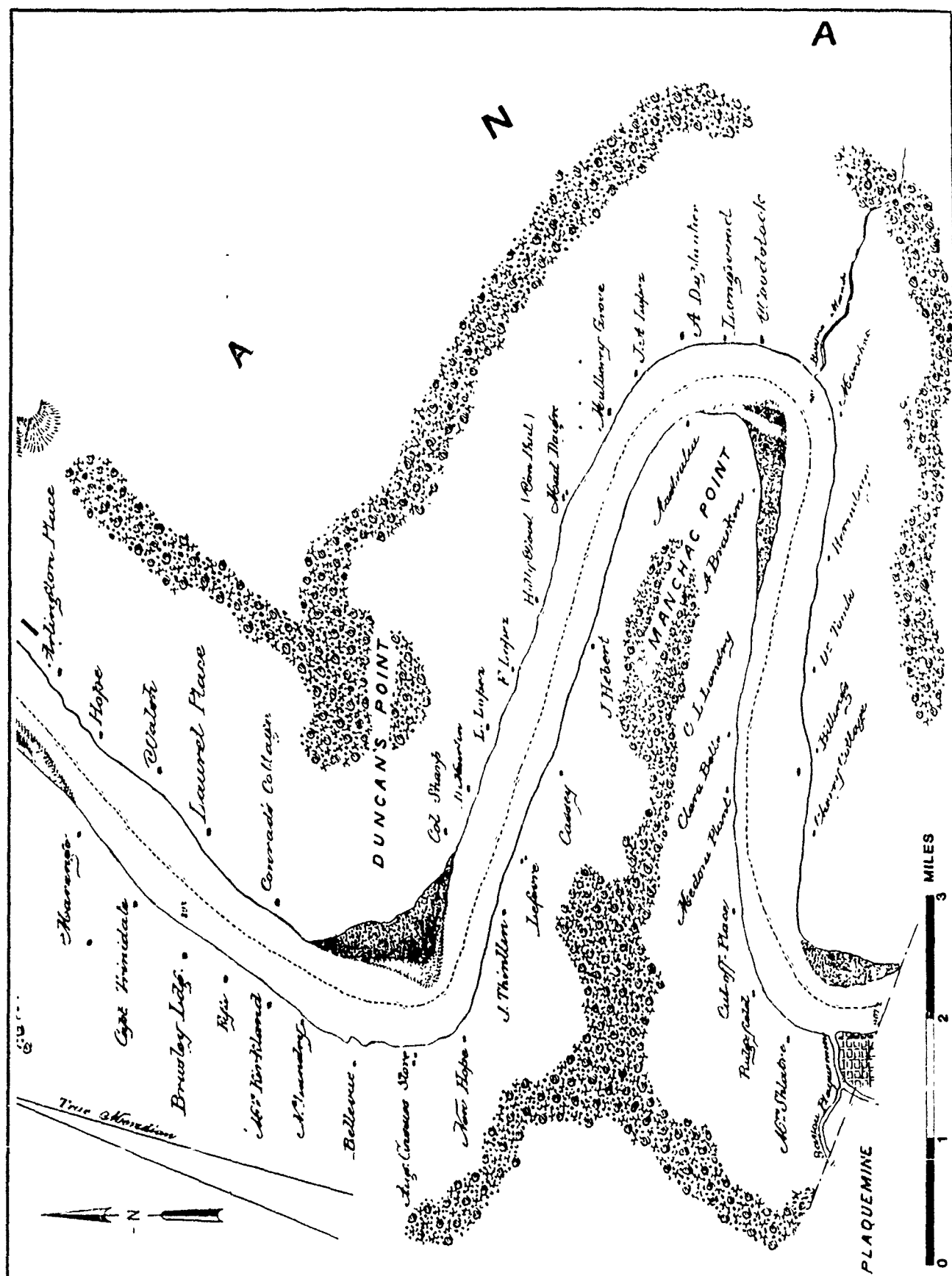


Figure 10. 1874 Map of a Reconnaissance of the Mississippi River showing locations of post-Civil War landowners in the project area (Louisiana Division of Archaeology, Baton Rouge, Louisiana).

Levee breaks and flooding contributed to the decline in sugar production at Clara Belle. In 1876, a new levee was positioned between the old sugar house and several structures situated along the river side of the sugarhouse (Figure 11). The 1876 *Clarabel Levee* map shows the position of the "Woods sugarhouse," and the structures situated directly riverward of the new levee and the sugarhouse. The two moderately sized structures that were aligned with the sugarhouse were probably residential structures from E. D. Woods tenancy. The structure upriver from the two houses and next to the 1876 levee stands in the approximate area of 161V160. Only one structure was standing riverward of the Woods' sugarhouse and the 1876 levee (Figure 12). Since they were inadequately protected after 1876, the E. D. Woods plantation structures evidently were abandoned and later destroyed.

Internal family strife also contributed to the demise of the Woods's sugar estate during the Clara Belle years. H. H. Martin took on the responsibility for years of unpaid mortgages when he purchased this land at a sheriff's sale in 1867. When Martin failed to meet his debts, his creditors sued him. One of the plaintiffs, his son-in-law, John T. Gunn, had married Martin's daughter Clara (for whom the plantation was named) in 1872. A native Kentuckian, Gunn had worked for Martin in Kentucky and Illinois. The 1877 Henry H. Martin Succession provides detailed description of the ongoing family suits filed for Clara Belle Plantation, which included an 1873 attempt by Gunn to have Martin declared insane. Some of the testimony dated August 16, 1873, stated:

The petition of John T. Gunn, resident of Shelly County, State of Kentucky, declares that a decree was ordered by Morgan County Illinois.... declaring that Henry H. Martin "an insane and unfit person to be sent to an Hospital."

For the benefit of the Community, he ought to be committed [to] a hospital for the insane (Succession of H. H. Martin, 1877, Docket 148, Plaquemine Courthouse, Iberville Parish).

Throughout the 1870s, countersuits were filed by Martin's daughter, Clara, against her husband John T. Gunn, claiming sole ownership of Clara Belle. Gunn, who was made curator (or guardian) of the estate in 1874, eventually returned the land to Clara, who was declared the sole heir of the faltering estate in 1886.

Throughout the late nineteenth and early twentieth centuries, several owners tried, to no avail, to revive the 4 1/2 arpent front Clara Belle property as a profitable sugar plantation. These owners included Victorin Comeaux (1885-1895), Oscar Lemoine (1895-1900), Marcellien Bourgeois (1900-1901), V. M. Lefebvre (1901-1908), and James E. Dunlop and Albert L. Grace (1908-1915) (Iberville Parish Courthouse, Conveyance Office Records).

Although flooding hampered cane production, it benefitted rice production. However, rice agriculture scarcely was practiced in the Plaquemine Bend region during the postbellum nineteenth and early twentieth centuries. Within the Missouri Bend project

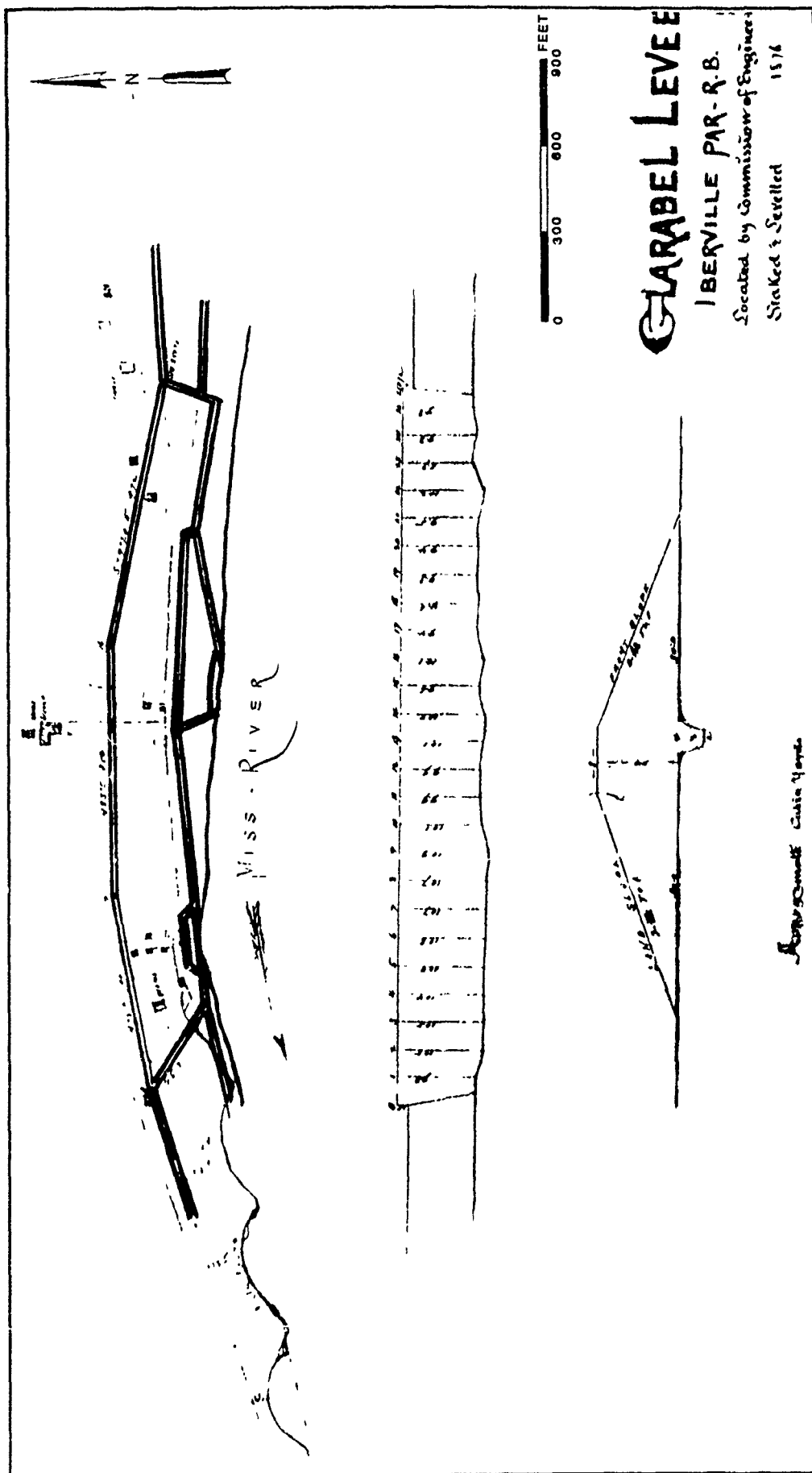


Figure 11. 1876 Levee Basin District Map showing Clarabel levee setback (Office of Public Works, Baton Rouge, Louisiana).

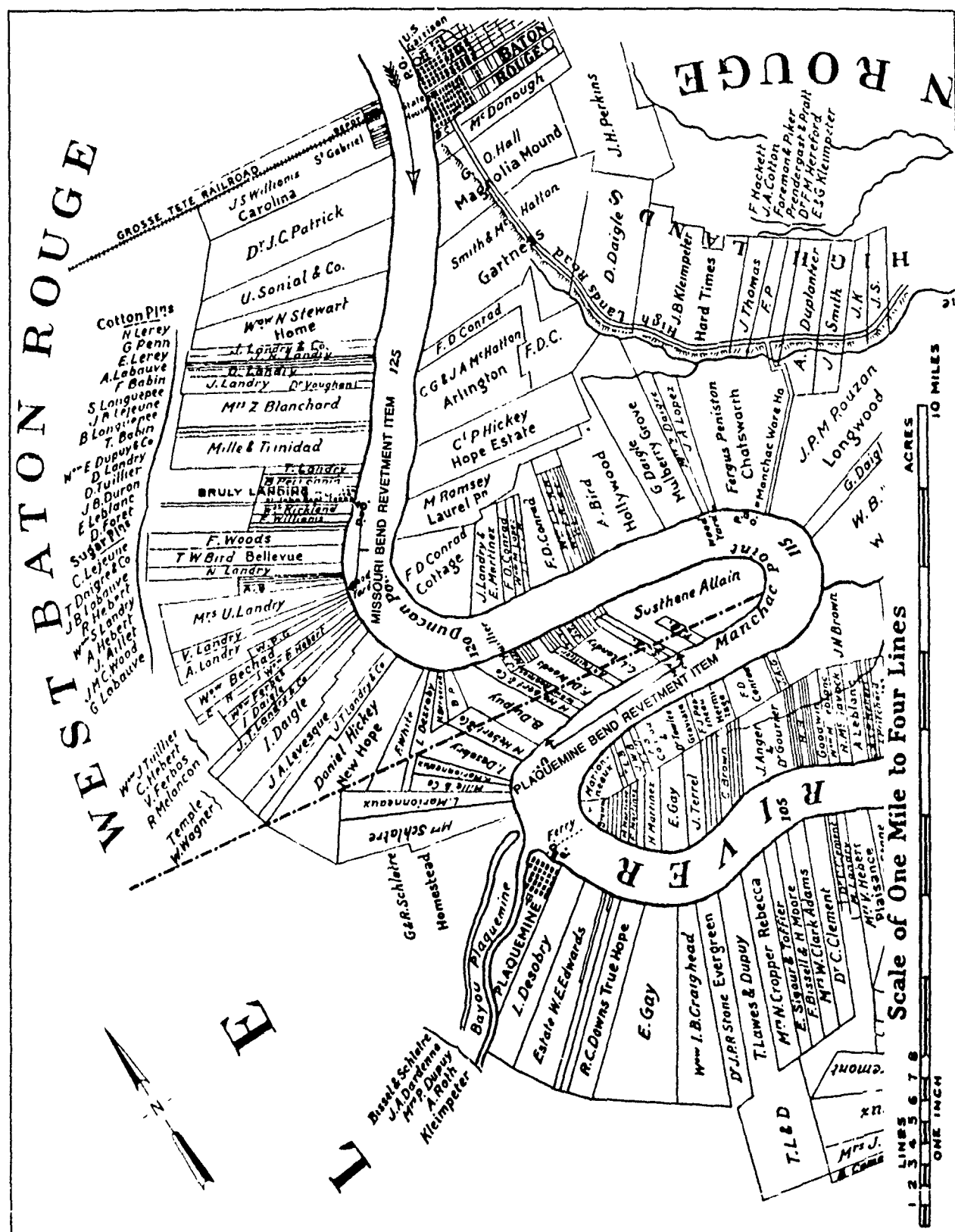


Figure 12. Excerpt from Norman's 1858 Chart of the Mississippi River from Natchez to New Orleans showing antebellum landowners in the project area.

area, only a few of the planters, such as John T. Bird, produced river rice.

The Twentieth Century

Land Use in the Project Reach

Although the smaller planters found it difficult to compete in the sugar industry, three plantations in the project reach continued to report high sugar yields in the early twentieth century. In 1917, St. Delphine Plantation reported 2,272,442 pounds of cane harvested; Australia Plantation reported 537,418 pounds; and, Union Plantation reported 2,245,000 pounds. Each of these plantations was owned by a planting company in 1917 (Bouchereau and Bouchereau 1868-1917). There were no documented yields for plantations located in the two impact areas.

In addition to sugar, both Iberville and West Baton Rouge plantations produced corn, cotton, and rice. By the 1940s, cotton no longer was considered a major crop, and rice gave way to increased cane cultivation. In addition to sugar cane and corn, Iberville Parish produced a small amount of truck crops (3.9 per cent of the cultivated acreage), rice (2.8 per cent), potatoes (2.4 per cent), and cotton (1.9 per cent) (Iberville Parish Planning Board 1945:18-20; West Baton Rouge Parish Planning Board 1947:19-20).

In the 1940s, manufacturing in each parish reflected the dominance of sugar cane; the most important industries centered around sugar processing. The greatest change in land use in the project reach occurred in 1956 when the Dow Chemical Company began to build a large complex approximately two miles above Plaquemine, on the Mississippi River. By 1964, the Dow Chemical Company's Louisiana plant comprised eleven chemical factories, and was the largest industry in Iberville Parish (Iberville Parish Development Board [1964]:65).

Land use in the project reach presently consists of a mixture of agriculture and industry. The historic sites on Manchac Point are located in wooded areas.

Flooding and Land Use

After the Civil War, levee construction became the responsibility of the State of Louisiana, and, finally, of the U.S. Government. In 1866, the Police Jury of each parish began to supervise the levees in their respective parishes. In 1890, the State of Louisiana created the Atchafalaya Basin Levee District; the District was responsible for levee construction and maintenance in 10 parishes, and within the project reach (Grace 1946:52; Kellough and Mayeux 1979:184).

Despite the new levee system, flooding continued to threaten the project reach. A very damaging flood, "the most disastrous high water in the history of the parish [Iberville]", occurred in 1882, when the water rose to 31.30 ft at the Plaquemine gauge. The levees suffered numerous breaks during this flood (Grace 1946:53). Subsequent

floods occurred in 1884 (measuring 31.70 ft at Plaquemine), 1892 (33.50 ft), 1897 (36.25 ft), 1903 (36.12 ft), 1907 (33.40 ft), 1908 (35.20 ft), 1912 (39.38 ft), 1913 (36.80 ft), 1922 (41.40 ft), 1927 (43.00 ft), 1929 (38.85 ft), 1932 (38.20 ft), and 1944 (37.10 ft) (Grace 1946:53). The record-breaking flood of 1927 caused extensive damage in the lower Mississippi Valley; "there were 77 levee crevasses flooding 26,000 square miles of land. It was ca"led this country's greatest peace time disaster, with 400 persons killed and 700,000 left homeless" (Kellough and Mayeux 1979:185; Grace 1946:53). Congress passed the Flood Control Act in 1928, making the federal government responsible for the levee system (Kellough and Mayeux 1979:185).

The lower bank of Manchac Point steadily eroded throughout the twentieth century (Figure 5). The structures on Manchac Point (also known as Australia Point, after Australia Plantation), were gradually moved back as the bank line deteriorated. Such structures included cabins, larger homes, a store, and barns. The Atchafalaya Basin Levee District Map, Chart 79, ca. 1921, clearly documents the removal of structures, the eroding bank line, and the successive levees constructed to protect the area (Figure 13).

In 1932, the Atchafalaya Basin Levee Board (ABSL) constructed a levee across Manchac Point, leaving the land more vulnerable to flooding. Landowners on Manchac Point were forced to move prior to levee construction. In a space of two to three years, everyone had moved, many of the houses also were moved. Remaining houses were torn down, but many foundations reportedly remain on Manchac Point. The landowners, however, retained fee title to their land. After this abrupt exodus, Manchac Point no longer was cultivated; presently, it is wooded and overgrown (Wallace Hargrave, Atchafalaya Basin Levee District Engineers, personal communication 1990).

Conclusion

The key sites in the project reach are suggested by Charts 66 and 67 of the Mississippi River Commission Survey Map (1879-1880) (Figure 14). Approximately 18 sugar plantations once stood within the project reach. Most of the plantations contained several structures, probably barns, sugar houses, smaller residences for tenants or sharecroppers, and larger residences.

Flooding, bank line erosion, and the construction of levees impacted historic structures and land use in the area, especially on Manchac Point. The structures on Manchac Point gradually were moved or were washed away during the twentieth century.

Moreover, the construction of the Dow Chemical complex north of Plaquemine represents a significant shift in the economy of the project reach (and of both parishes and the state). This shift also affected land use: "Established in 1956, when Dow purchased a 1,900 acre tract of land previously used for sugar cane cultivation and cattle grazing, the division is a completely modern chemical complex . . ." (Iberville Parish Development Board [1964]:65). As of 1964, Dow Chemical owned approximately 1,700 acres, and employed approximately 950 people. In 1957, only one year after Dow began to build its Louisiana plant, the West Baton Rouge Parish Development Board recognized

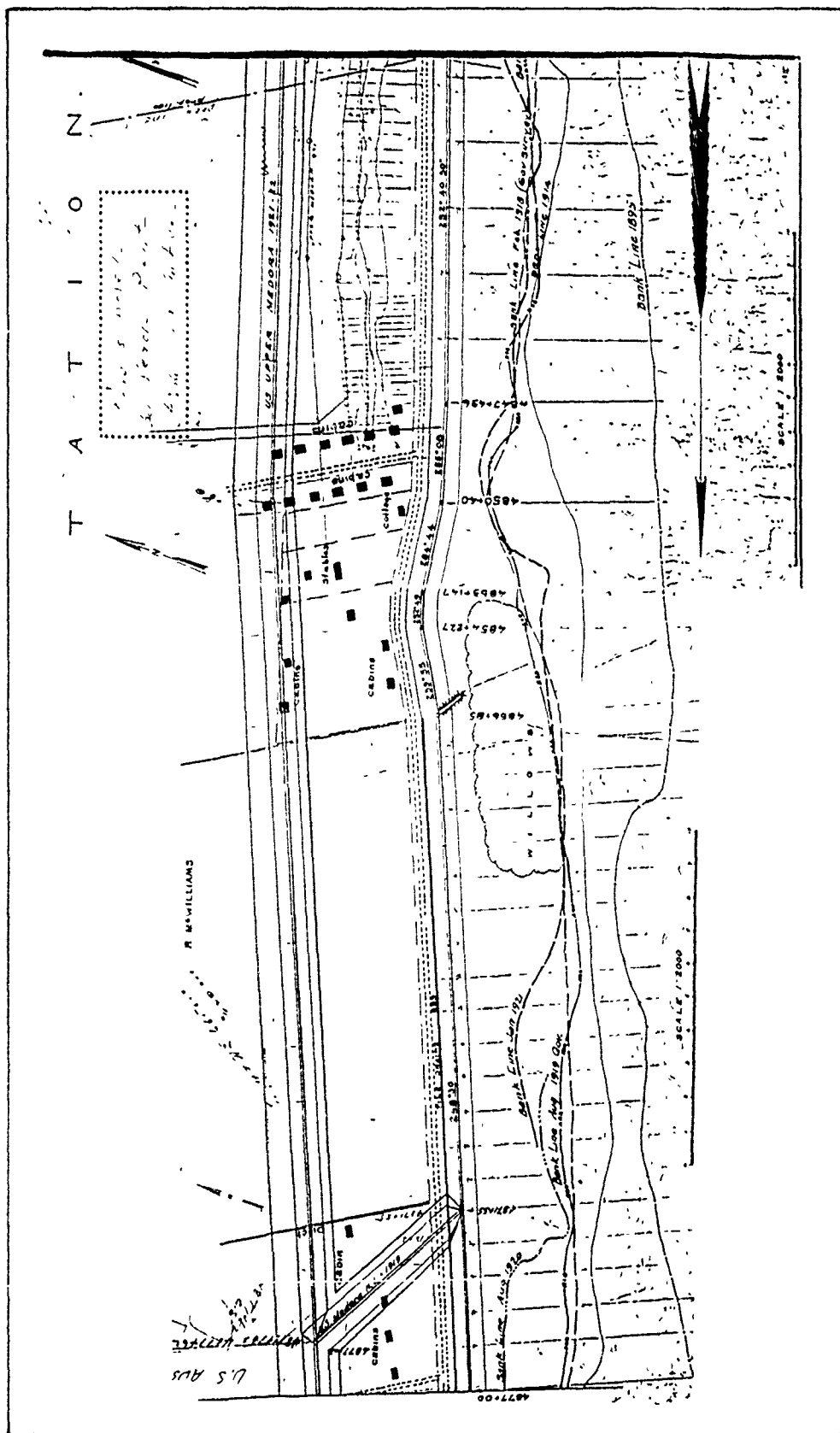


Figure 13. Ca 1921 Atchafalaya Basin Levee District, Chart 79. Excerpt showing bankline erosion and a notation made of cabins moved at Medora Plantation. Note reads: "nine cabins moved -- by Medora Plantation -- Herville Bank and Trust Co."

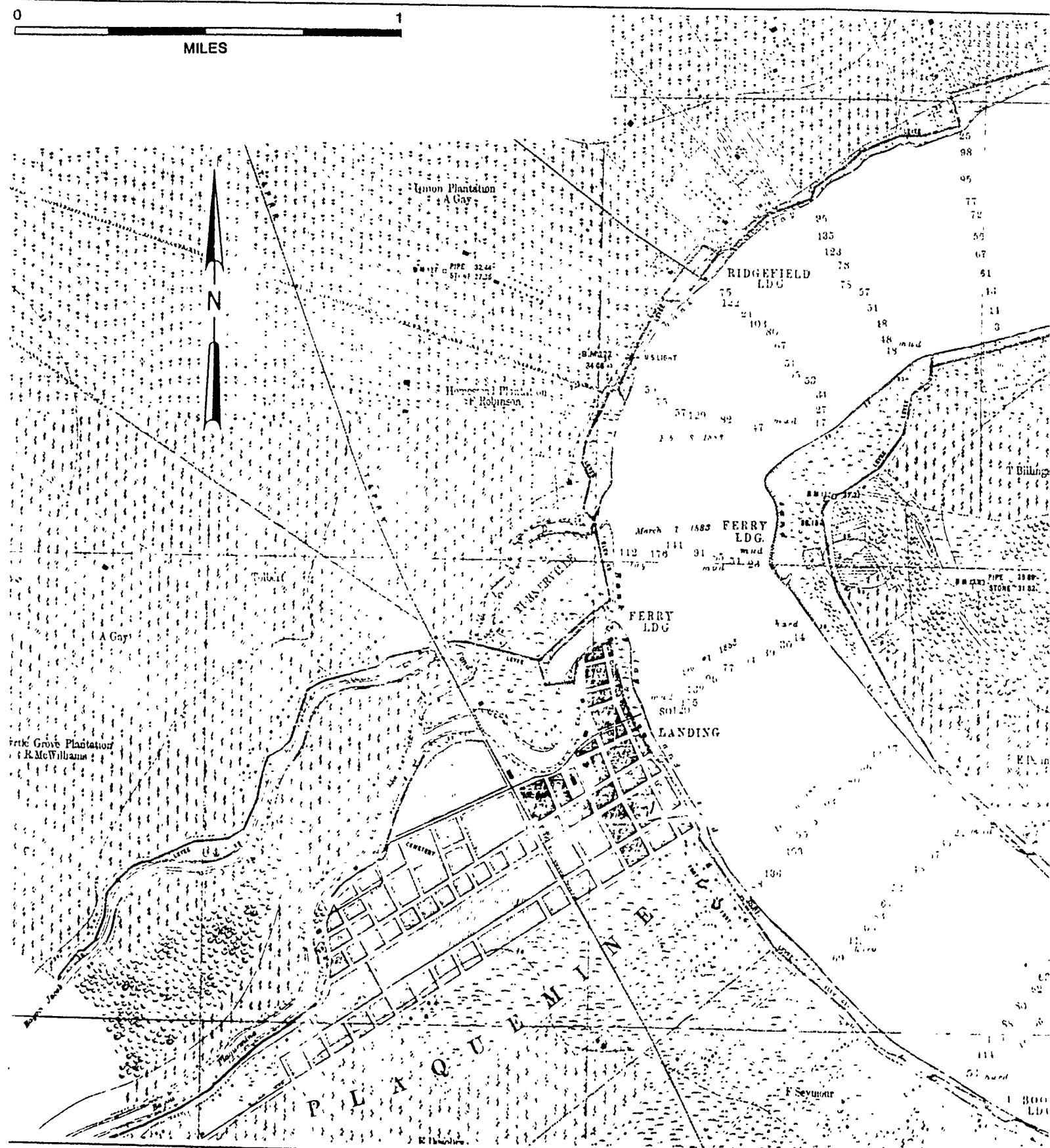


Figure 14. 1879-1880 Excerpts from Charts 66 and 67 of the Mississippi River Commission Survey showing the project reach.

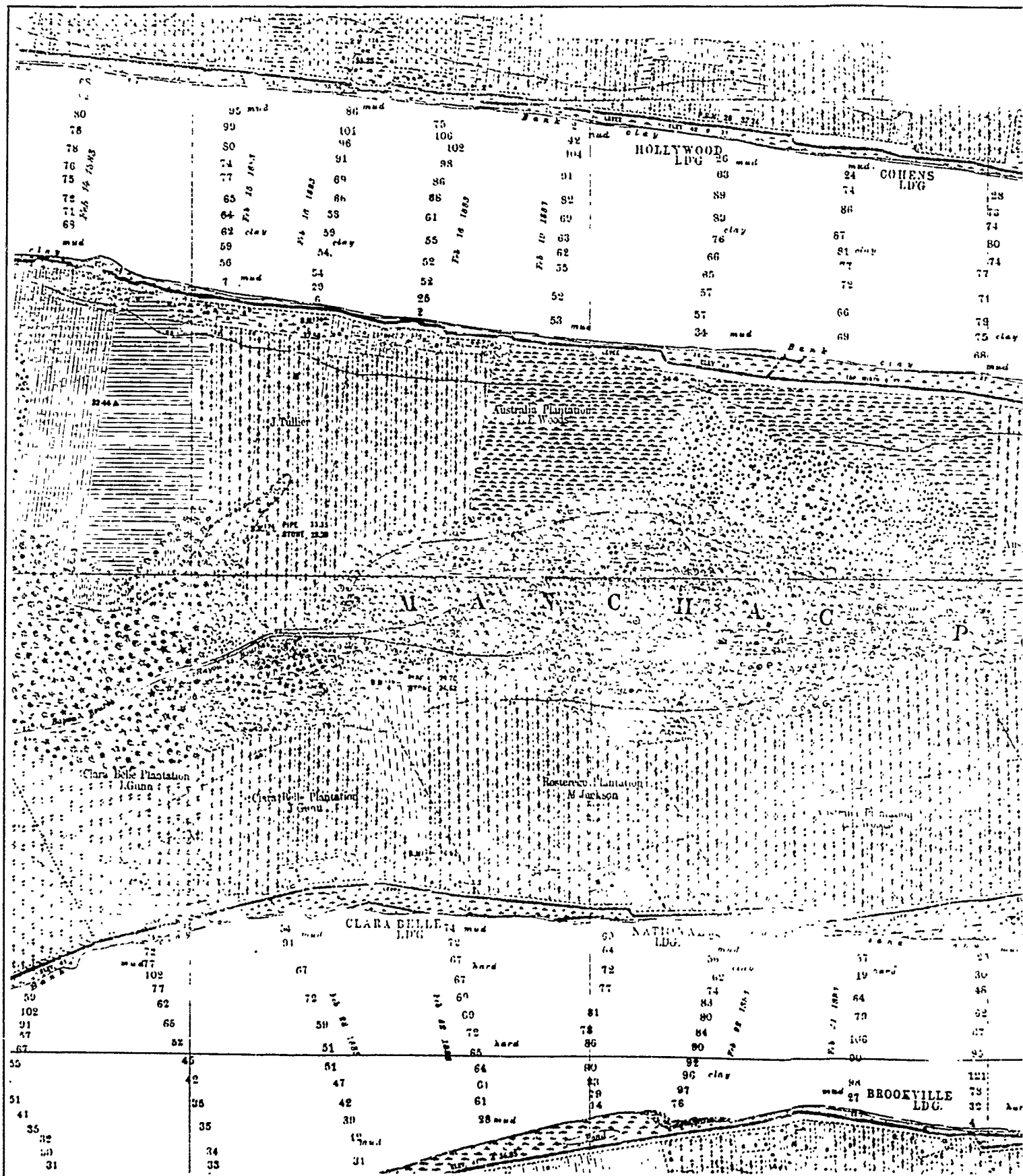


Figure 14. 1879-1880 Excerpts from Charts 66 and 67 of the Mississippi River Commission Survey showing the project reach.

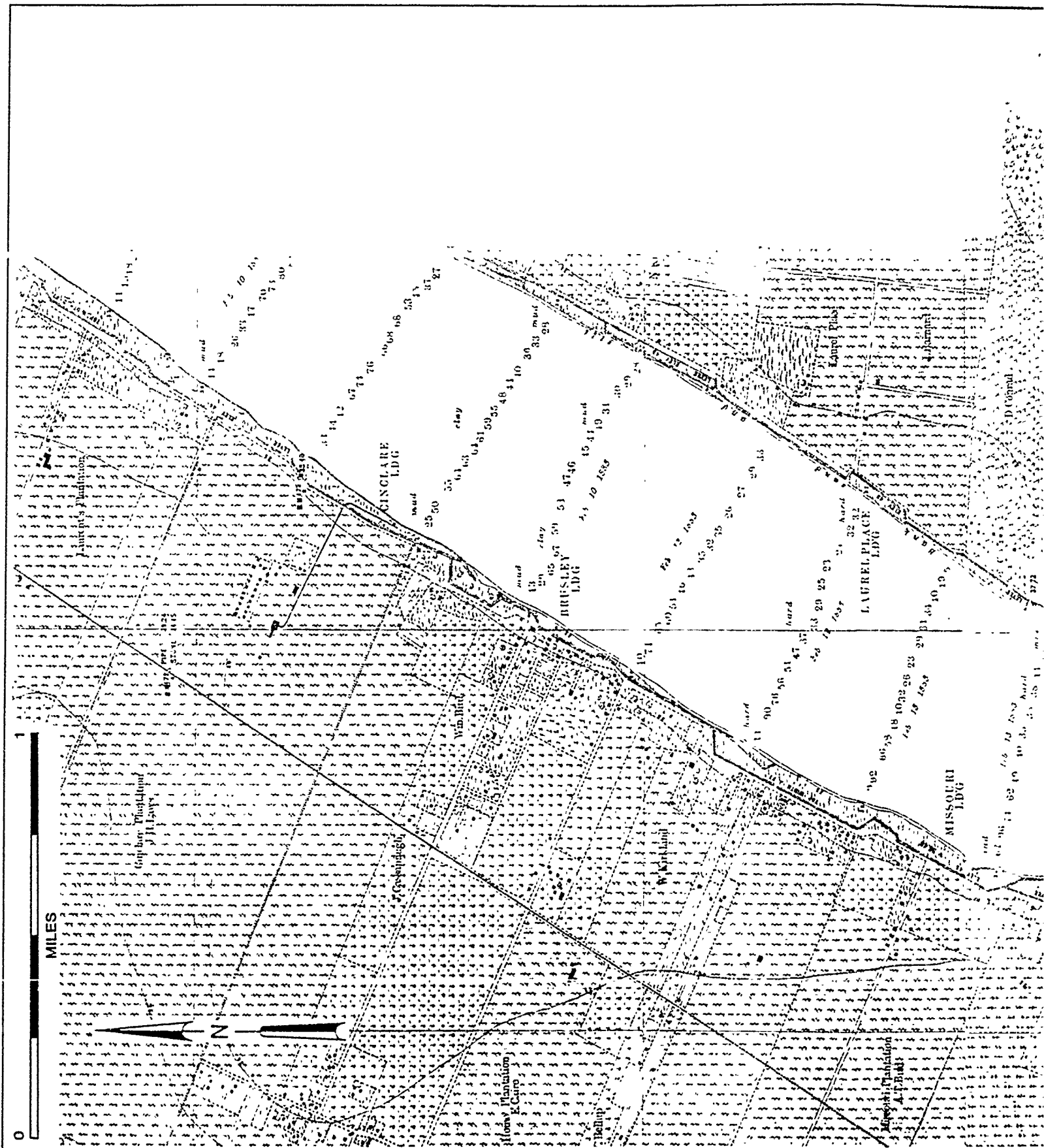
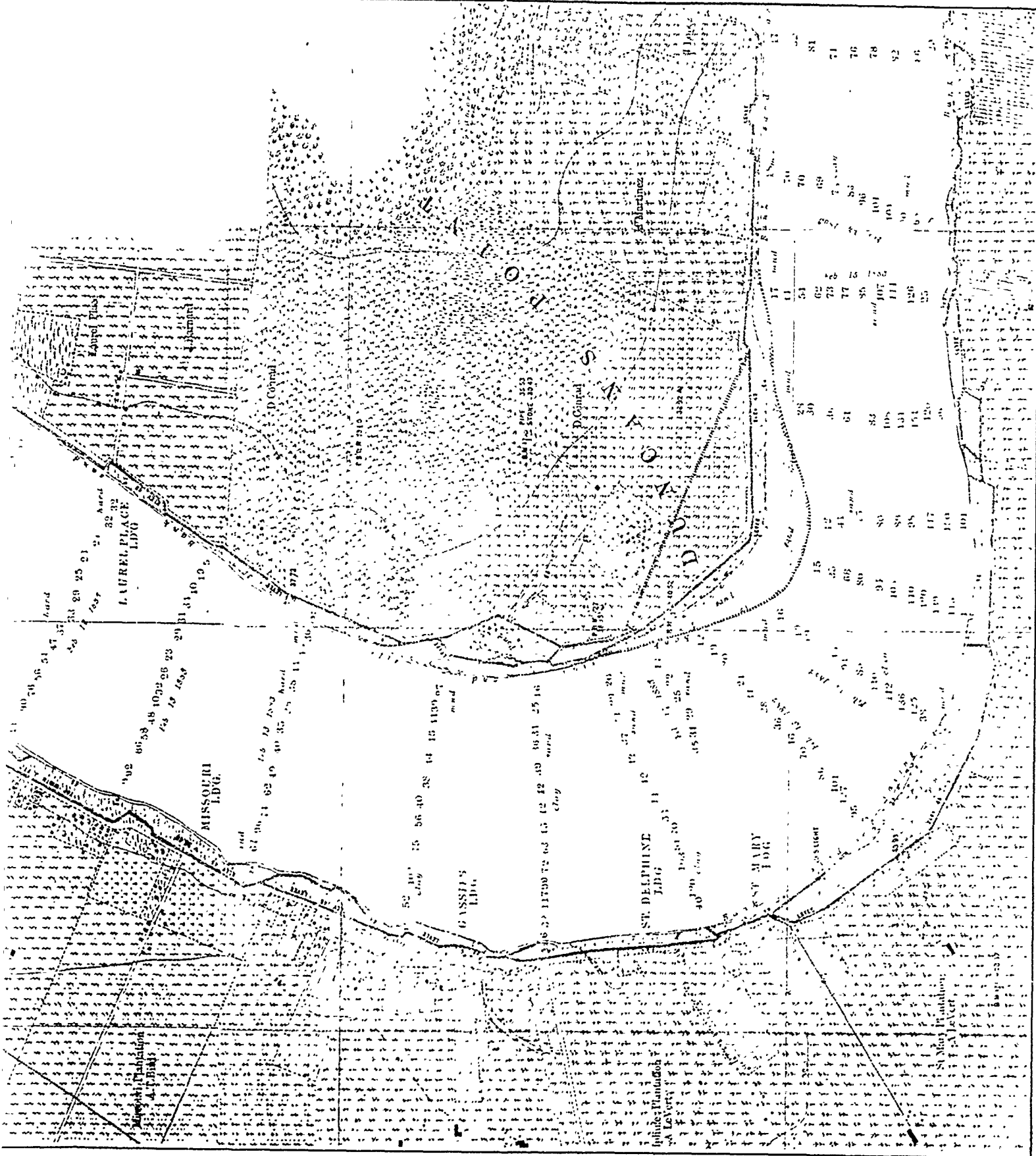


Figure 14. 1879-1880 Excerpts from Charts 66 and 67 of the Mississippi River Commission Survey showing the project reach.



that the once rural parish "is rapidly developing into an industrial parish with almost unlimited possibilities for future industrial expansion" (West Baton Rouge Parish Development Board 1957:66).

The project reach was impacted in several ways. Land use was dominated by the Mississippi River. Because the antebellum sugar planters generally were able to maintain their levees along the river, their plantations were productive. The Civil War brought economic ruin to most of the antebellum planters; consequently, the levees were not maintained and sugar crops fell victim to flooding. Only large plantations owned by large companies were able to attain high levels of sugar production into the early twentieth century. After ca. 1930, the landowners on Manchac Point moved away as the Atchafalaya Basin Levee District constructed a levee across the point. Since that time, agricultural activity ceased on Manchac Point.

CHAPTER V

FIELD METHODOLOGY

The Missouri Bend-Plaquemine Bend cultural resources survey was designed to identify and to assess the significance of all cultural resources located within the two revetment items. Field investigations consisted of intensive pedestrian survey augmented by systematic subsurface testing. Site evaluation included shovel and auger testing and the excavation of several test excavation units.

A walkover of the project area was performed to locate artifact scatters and to assess the condition of each project area. A more intensive systematic shovel testing survey also was conducted within both revetment items. Shovel testing occurred along 26 linear transects. Twelve transects were placed within the Missouri Bend Revetment Item (River Miles 224.4-223.8-R). The Plaquemine Bend Revetment Item (River Miles 212.6-210.5-R) was bisected by a small bayou; seven linear transects were placed on either side of the bayou, for a total of 14 transects. Each survey originated at the upriver boundary of the work area and proceeded parallel to the existing levee alignments. Observations concerning both the cultural and the natural setting of the project area were recorded. This included data on topography, elevation, flora and fauna, geomorphology, archeology, and impact assessments.

A total of 608 shovel tests were excavated within the 216 acre survey area; 348 shovel tests were excavated within the Plaquemine Bend Revetment Item, and 260 shovel tests were placed within the Missouri Bend Revetment Item corridors. Shovel tests were placed at 50 m intervals along each transect; shovel tests in adjacent transects were offset. Each shovel test measured approximately 30 to 35 cm in diameter and each was excavated to a minimum depth of 50 cm. Soils from each shovel test were hand sifted using a trowel and were visually inspected for artifacts. Modern artifacts were described on shovel test record forms but were not collected. Each shovel test was backfilled immediately upon completion of the archeological recordation process. Shovel tests were not excavated in borrow pits that contained standing water.

Archival and cartographic research of the Missouri Bend Reach indicated the potential for encountering the remains of two landings and a wood yard. Heavy disturbances caused by borrowing in the Missouri Bend Reach precluded the possibility of finding intact cultural remains.

Archival and cartographic research on the Plaquemine Bend Reach documented evidence of the historic Cutoff, Medora, Clara Belle, and Resterege Plantations. In addition, a U.S. navigation light was shown on the 1921 Mississippi River Commission map. New navigation lights were installed during the early 1960s; the remains of the earlier light were not encountered. The remains of a large building associated with Cutoff Plantation probably were buried underneath the current levee. The one to three slave cabins and wood yard associated with Resterege Plantation appear to be located just outside of the impact area. Six auger tests were excavated at Medora Plantation. These

auger tests were placed parallel to the river (Figure 3), where comparison of the 1879-1880 Mississippi River Commission map with the modern USGS topographic map (Figure 7) suggested deposits associated with historic structures on Medora Plantation may be located. Each auger test was excavated to a depth of 2 m, and soil cores were inspected for artifacts. However, no cultural remains were encountered. In addition, a stratigraphic profile of each auger test was recorded (Appendix II). Other auger tests were not placed within the reach since levee construction, borrow pit excavation, and riverine cutting impacted the area extensively. However, stratigraphic sequences observed along the riverbank were examined for cultural material. In addition, several surface artifact concentrations and an exposed vertical plank feature at the site of Clara Belle Plantation were tested.

Site testing at Clara Belle Plantation began by establishing a temporary site datum; this point was designated N100, E100, and its location was tied to the existing levee. Surface collections were gathered at 25 m intervals along the bankline to ascertain artifact concentrations within the site and possible temporal distinctions between different portions of the site. Artifacts collected included diagnostic ceramic sherds and a representative sample of other artifacts. Twelve auger and 31 shovel tests were used to define site limits, stratigraphy, archeological integrity, and to evaluate the density of the cultural remains. Each auger test was excavated to a depth of 2 m; shovel tests were excavated to a depth of 50 cm. Artifacts recovered from both auger and shovel tests were bagged and labeled by provenience.

Two 1 x 2 m test excavation units and one 1 x 1 m test excavation unit were placed at the site. These units were excavated in arbitrary levels; all artifacts were bagged by provenience. Standard archeological recordation and excavation procedures were followed throughout the course of the survey. Excavation record forms were completed for each level; wall profiles of each excavation unit were mapped and photographed. Each excavation unit was backfilled immediately upon completion of all recordation procedures. One archeological feature was located during the field investigations. It was photographed and recorded. In addition, an auger test was placed in the feature to determine its stratigraphic sequence.

A site map of the Clara Belle Plantation site (16IV160) was drawn; the locations of each shovel and auger test and of each excavation unit were recorded. In addition, site units, artifact concentrations, the observed features, and current river levels were recorded on the site map.

CHAPTER VI

RESULTS OF THE FIELD INVESTIGATIONS

Introduction

In accordance with the Scope of Service, both the Plaquemine Bend and the Missouri Bend Revetment Items were examined for cultural resources through pedestrian survey, shovel testing, and auger testing. Six hundred eight shovel tests were placed in the project area. Six auger tests were placed at the site of Medora Plantation, a nineteenth century sugar plantation; no structures or cultural deposits were encountered at this locus. Deep testing was not implemented in the vicinity of the Cutoff or Resterege Plantations, since riverine cutting destroyed the archeological deposits associated with these historical centers. One archeological site, the Clara Belle Plantation site (16IV160), was discovered and recorded.

Missouri Bend Revetment Item

The Missouri Bend project area is located near an aggrading bank (Figures 4 and 5). Since the late nineteenth century, over 250 m of deposits accumulated within the project area. While this build up probably covered some nineteenth century archeological sites, field survey and cartographic data indicate that most of the Missouri Bend Revetment Item formed after the raising of the levees (1920s-1930s).

Field investigations at the Missouri Bend Reach consisted of pedestrian survey and shovel testing along twelve transects oriented parallel to the river. A considerable amount of modern disturbance was observed throughout the survey reach. For example, the reach was borrowed extensively. Three adjacent linear borrow pits were excavated at the upriver end of this project area; a fourth was underway at the time of field investigations. In addition, large deposits of modern refuse, fill from the construction of a large transmission line, and riprap associated with revetment construction at the south end of the reach, were noted. Other than modern debris, no artifacts were recovered from 260 shovel tests excavated in the Missouri Bend Reach. Modern debris or refuse recovered from shovel tests was noted, but not collected. Because of the recency of the batture deposits, and the extensive disturbance noted throughout the reach, no auger tests were placed in the Missouri Bend survey area.

While preliminary cartographic research suggested that the remains associated with two landings and a woodyard (Figures 6 and 12) may be present within the Missouri Bend Reach, no archeological sites or pre-1945 standing structures were found. Finally, the older portions of the batture were destroyed by the construction of the existing levee and by borrow pit excavation. The remaining portions of the batture were deposited during this century (Figure 6); later areas have little chance of containing potentially significant cultural remains.

Plaquemine Bend Revetment Item

The Plaquemine Bend Revetment Item is located on a severely cutting bank. Since the 1880s, over 250 m eroded from portions of the bank (Figures 4 and 5). Comparisons of the 1980 photorevisions to the USGS Baton Rouge, Louisiana topographic map, and the 1981 aerial photographs of the project area, confirm that the bankline at the downriver end of the project area eroded an additional 30 to 40 m. This cutting apparently destroyed many of the anticipated historic cultural resources. In addition, overbank deposition continues to accumulate inland from the cutting bank, potentially burying some sites. Finally, portions of the project area were destroyed by borrowing, levee construction, and by the addition of fill for the construction of modern aids to navigation.

Two sets of seven transects oriented parallel to the river were examined for cultural resources during the pedestrian survey and shovel testing of this reach. Natural and cultural disturbances observed during this survey included bankline cutting; overbank deposition; borrow pitting; modern refuse disposal, and the commercial use of the batture, especially toward the west end of the reach. One archeological site, the Clara Belle Plantation site (16IV160) was observed eroding from the river bank. Other than modern debris, nothing was recovered from the 348 shovel tests placed within this reach. Rather, most of the shovel tests revealed overbank deposition. No pre-1945 structures were present within the project area.

Several aids to navigation were encountered west of the small bayou that bisects the reach, just west of Broussard Landing. These included several modern day boards and two lights. The Medora Range Front Light was established in 1964, and was rebuilt in 1968. The Medora Range Rear Light was established in 1964; it has not been rebuilt (Steve Smith, Aids to Navigation, 8th Division, U.S. Coast Guard, personal communication 1989). While both lights are situated within the project area, neither is over 50 years old, and neither possesses the quality of significance as defined by the National Register of Historic Places criteria.

Six 2 m deep dutch auger tests were placed in the vicinity of the hypothesized location of a domestic complex associated with Medora Plantation (Figures 3 and 7). These auger tests were placed at 50 m intervals along the top of the current bankline. Each test was examined carefully for evidence of cultural resources, and a stratigraphic profile was drawn of each (Figure 15; Appendix II). A typical stratigraphic profile contained 27 cm of 10YR 3/3 dark brown silt overlying a 113 cm layer of 10YR 4/3 dark brown silt. The bottom stratum, from 140-200 cm below surface consisted of 10YR 4/3 dark brown silt mottled with some 10YR 4/1 dark gray silty clay with some partially decomposed organic material. The clay content of this lower stratum increased with depth. No evidence of cultural deposits was observed in any of the auger tests. The entire Medora Plantation domestic complex probably eroded into the river; the north portion of the site probably was destroyed as late as the early 1980s.

AUGER TEST 4

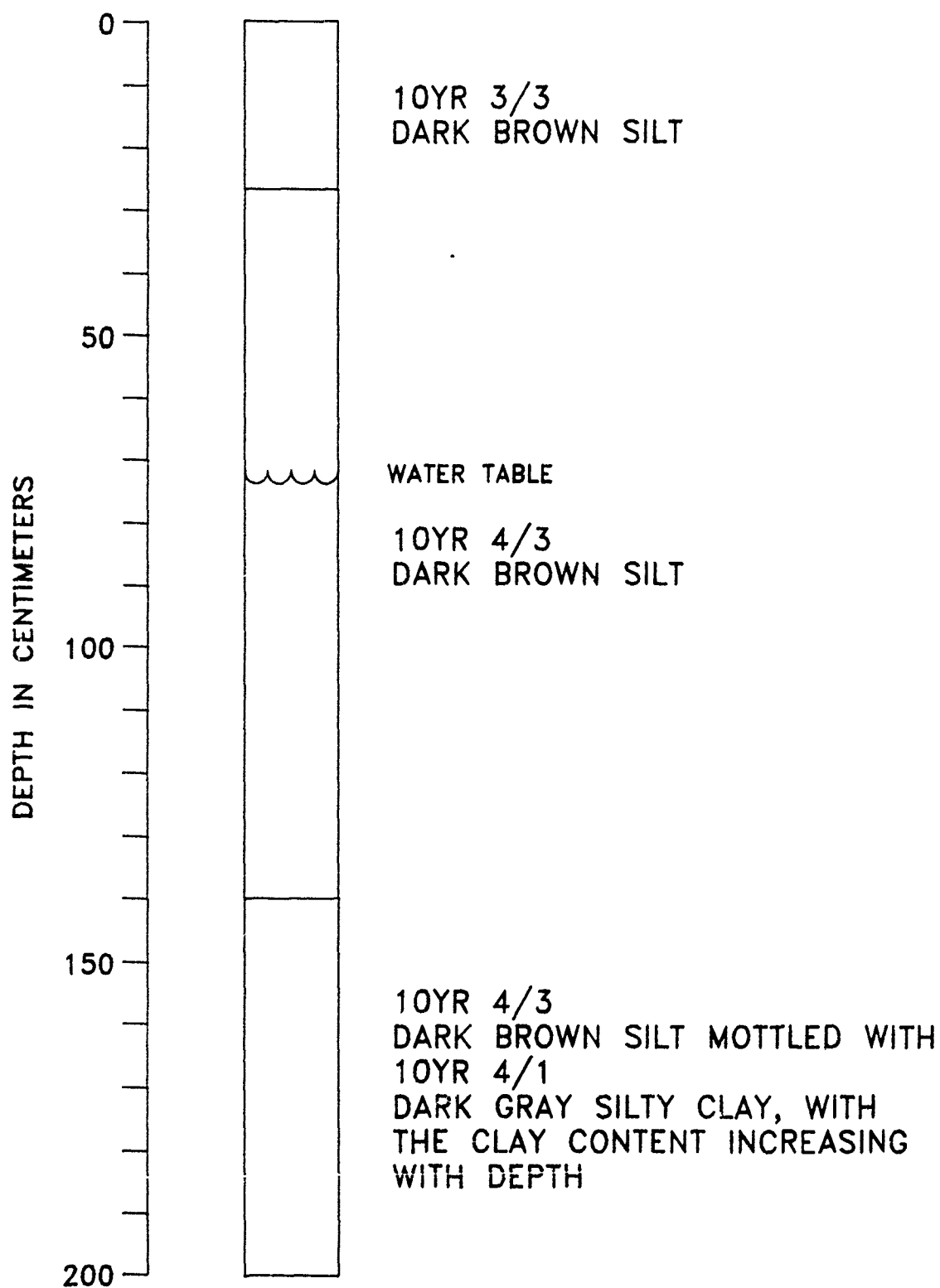


Figure 15. Auger test profile near the Medora Plantation domestic complex.

Clara Belle Plantation Site (16IV160)

The Clara Belle Plantation site (16IV160) consists of mid to late nineteenth century refuse deposits associated with Clara Belle Plantation. This site is located on the west (right descending) bank of the Mississippi River, within the Plaquemine Bend Revetment Item (Figure 3). The site measures 25 m north-south by 310 m east-west, and covers 1.9 acres. The north half of the site is covered with hardwoods in intermediate stages of ecological succession. The south half of the site is covered with weeds, grasses, and vines, such as poison ivy, blackberry, and wild grape.

The site was identified and recorded during pedestrian survey and shovel testing of the Plaquemine Bend project area. Numerous nineteenth century artifacts were observed along a cutting bank. These artifacts consisted of two concentrations of domestic refuse and a small concentration of long iron pins, spikes, and bolts. In addition, a meter wide square wooden feature (Feature 1) constructed of vertical boards was observed at the river's edge (Figure 16).

Additional testing was conducted at the site to ascertain each concentration's horizontal and vertical extent, to confirm cultural affiliation, to determine archeological integrity, and to evaluate research potential. During site testing, a controlled surface collection was completed, and 31 shovel tests and 12 auger tests were placed across the site. The surface collection was conducted in 25 m segments to determine the extent of the artifact concentration. Shovel tests were placed along two parallel rows, each 10 m apart; shovel tests were spaced at 20 m intervals. This testing demonstrated that the site, between the upper bankline and the borrow pit to the north, was covered with over 50 cm of natural overbank deposition. Auger tests were placed along one of these transects and were excavated at 25 m intervals. The results of the auger tests suggested that buried cultural deposits were near Auger Test N102, E375; this test produced a fragment of unidentified mammal bone at a depth of over 1 m.

Three excavation units were placed within the site, one each in the three concentrations. Unit N103, E152 was positioned on top of the bank at the downriver area of domestic refuse (Figure 16). This 1 x 2 m unit was excavated to a depth of 1.4 m. It contained nine strata all of which were comprised of thinly bedded riverine deposits of silt and silty clay (Figure 17). Stratum I consisted of 10YR 5/2 grayish brown silt; Stratum II exhibited 10YR 4/4 dark yellowish brown silt; and, Stratum III contained 10YR 4/3 dark brown sandy silt. A few artifacts were recovered from Stratum I and the upper half of Stratum II. These included whiteware, bottle glass, window glass, and several brick fragments. The lower meter of Unit N103, E152 contained 10YR 3/3 dark brown silt, 10YR 4/3 dark brown sandy silt, and 10YR 4/2 dark grayish brown silty clay mottled with ferrous oxides. One artifact, a machine made amber bottle glass fragment, was recovered from Stratum V; no other cultural materials were observed in these strata.

The second unit (Unit N93, E182) was located in a small concentration of iron pins, spikes, and bolts found adjacent to the location of the downriver concentration of domestic refuse (Figure 16). A 108 cm long iron pin, and a 30.5 cm iron bolt were recovered from the surface of the unit. This 1 x 2 m unit was excavated to a depth of

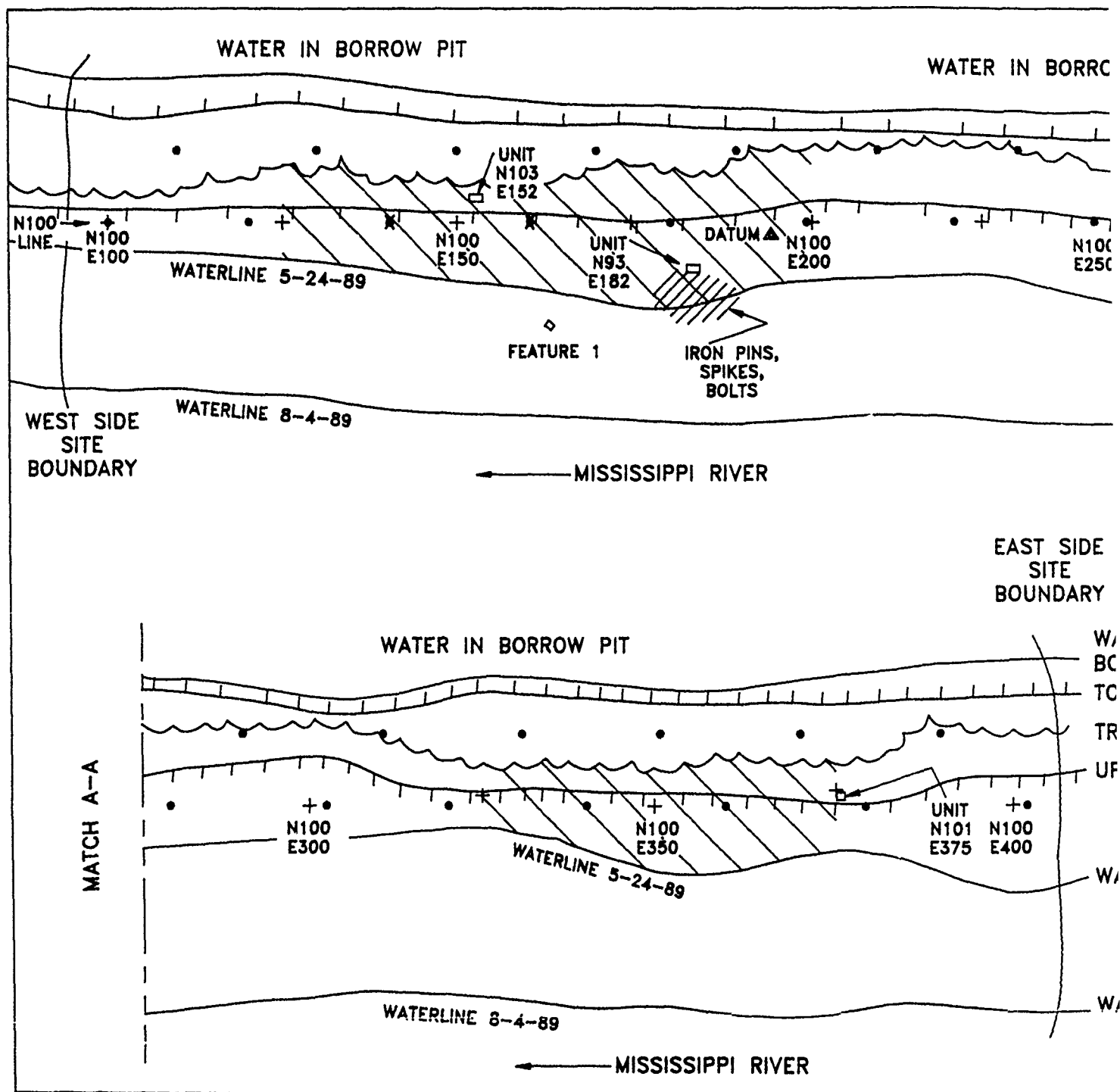
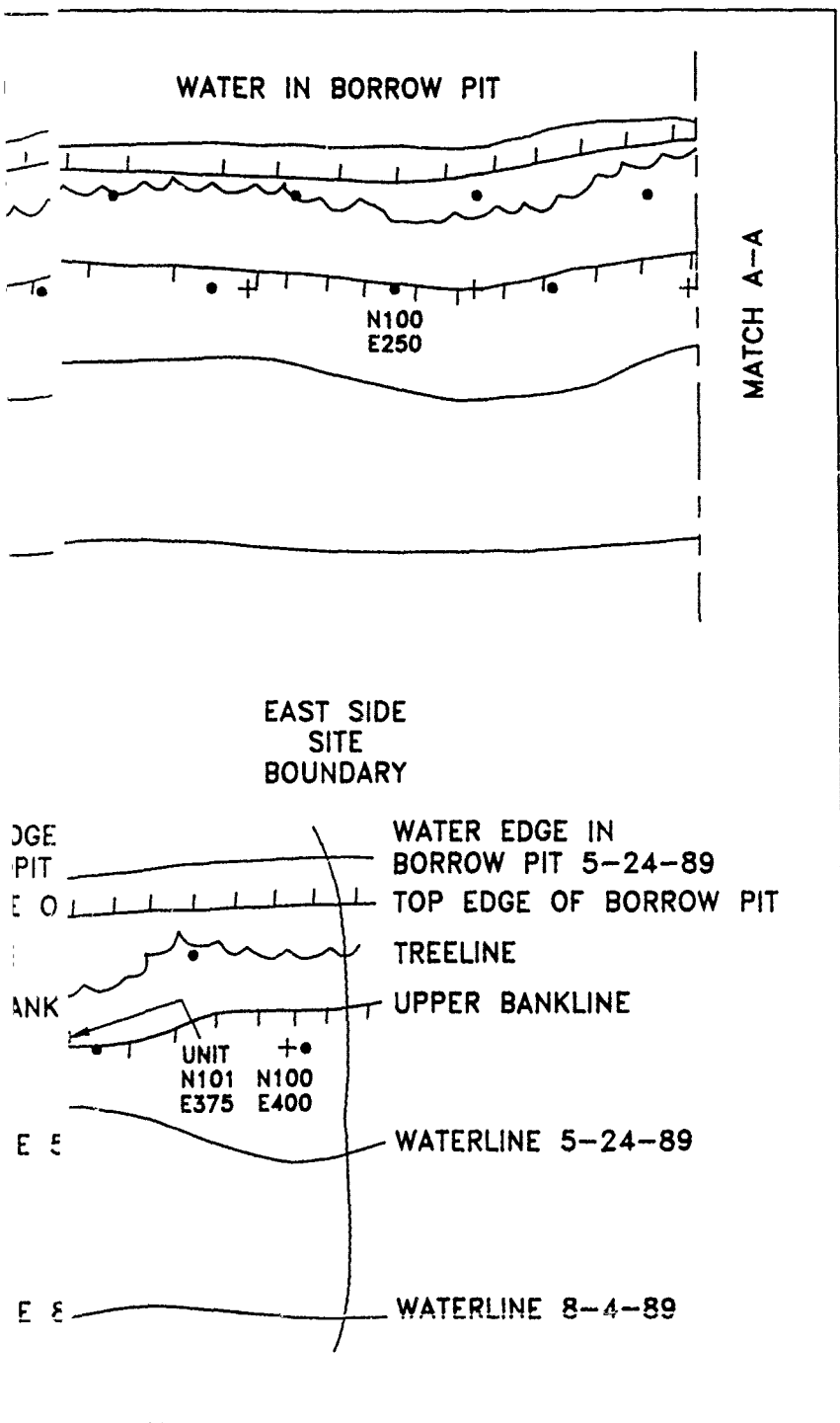


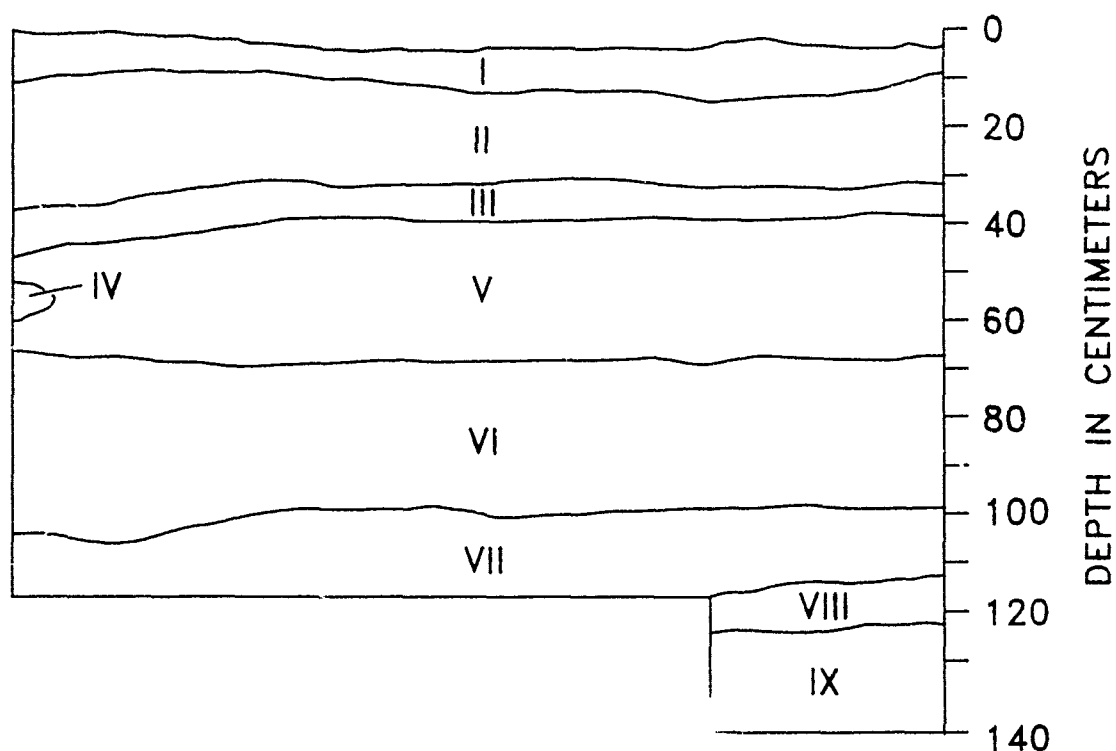
Figure 16. Plan of the Clara Belle Plantation site (16IV160).



CLARA BELLE PLANTATION SITE 16IV160

- x POSITIVE SHOVEL TEST
- NEGATIVE SHOVEL TEST
- + AUGER TEST
- EXCAVATION UNIT
- ~ TREELINE
- ▨ ARTIFACT CONCENTRATION
- △ DATUM:
- LAT. 30° 19' 15.368"
- LONG. 91° 11' 24.451"





- I: 10YR 5/2 GRAYISH BROWN SILT.
- II: 10YR 4/4 DARK YELLOWISH BROWN SILT.
- III: 10YR 4/3 DARK BROWN SANDY SILT.
- IV: 10YR 4/2 DARK GRAYISH BROWN SILTY CLAY.
- V: 10YR 3/3 DARK BROWN SILT.
- VI: 10YR 4/3 DARK BROWN BANDED SANDY SILT.
- VII: 10YR 3/3 DARK BROWN SILT.
- VIII: 10YR 4/2 DARK GRAYISH BROWN SILTY CLAY MOTTLED WITH FERROUS OXIDES.
- IX: 10YR 3/3 DARK BROWN SILT.

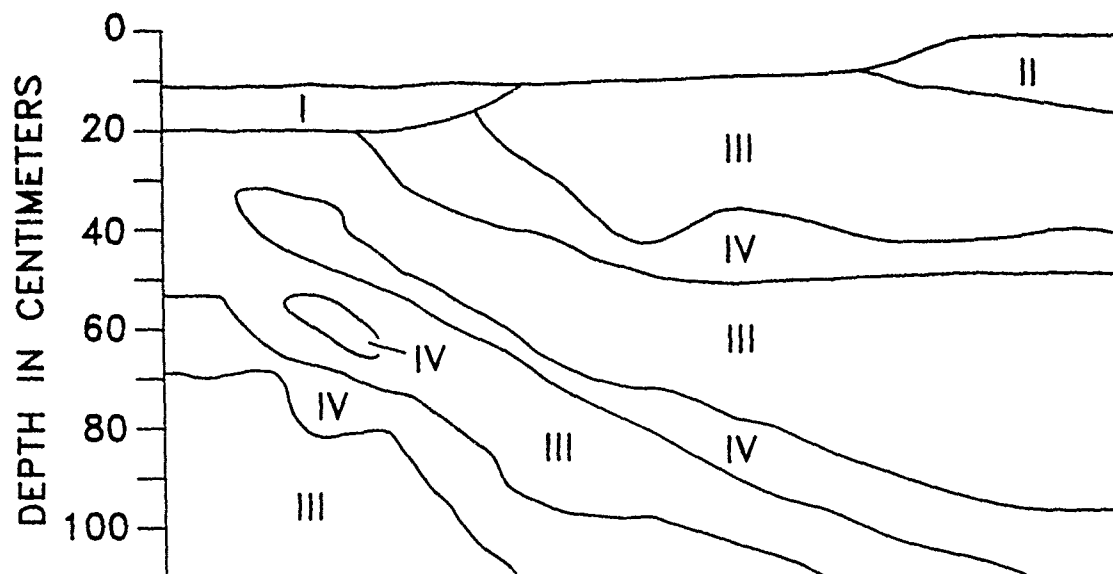
Figure 17. Stratigraphic profile of Unit N103, E152 at 16IV160, facing north.

1.1 m, at which point the water table was reached. The unit displayed two basic depositional sequences (Figure 18). Stratum I, a 10 cm layer of riverine sedimentation, was limited to the east side of the unit; the layer consisted of a 10YR 7/2 light gray silt banded with 10YR 4/2 dark grayish brown clayey silt, and it contained one 87 cm long iron pin similar to those scattered throughout the area. The rest of the unit contained mixed layers of historic fill. Stratum II was located along the west end of the unit, and contained 10YR 4/2 dark grayish brown silty clay mixed with 10YR 4/3 dark brown silty clay. It did not contain any artifacts. The rest of the unit contained alternating, poorly defined layers of 10YR 4/3 dark brown clayey silt, mixed with 10YR 5/2 grayish brown clayey silt; and, 10YR 5/2 grayish brown clayey silt, mottled with 10YR 4/3 dark brown clayey silt. Two brick fragments, a cut nail, and an oyster shell fragment were recovered from the upper 40 cm of these strata, while a fragment of whiteware was located approximately 60-70 cm below ground surface. In addition, two brick fragments were recovered at 1 m below surface. All of the artifacts were recovered from secondary context; no in situ cultural material was recovered from this unit.

The third unit, Unit N101, E375, was located at the upriver concentration of domestic refuse, toward the top of the bank, adjacent to an auger test from which bone was recovered. This 1 x 1 m unit was excavated in arbitrary 10 cm levels to a depth of 1.8 m. The upper 40 cm consisted of riverine deposited 10YR 6/3 pale brown sandy silt banded with 10YR 5/3 brown silt and 10YR 4/3 dark brown silt (Figure 19). The boundary between these thin laminae was wavy and undulating. Stratum I overlaid a 2 cm thick deposit of 10YR 4/1 dark gray silt and contained crushed shell, pea gravel, modern bottle glass, and a cigarette filter. Underlying Stratum II were two additional strata, III and IV, which formed a 40 to 70 cm thick layer of 10YR 4/2 dark grayish brown clayey silt and a layer of 10YR 5/3 brown silt, mottled with some 10YR 4/6 dark yellowish brown silt. These thinly banded strata contained no artifacts. Stratum IV rested on three similar strata, V-VII, which formed one, 40 to 70 cm thick depositional episode. Stratum V contained 10YR 4/1 dark gray fine silt which graded into Stratum VI, a 10YR 4/2 dark grayish brown fine silt. Stratum VII consisted of 10YR 4/2 dark grayish brown fine silt mottled with 10YR 5/3 brown fine silt. All three strata contained nineteenth century artifacts such as whiteware, stoneware, bottle glass, cut nails and other iron fragments, and brick fragments. These artifacts were not in situ; rather, they represent secondarily deposited material. The bottom 20 cm of the unit, Stratum VIII, contained 10YR 3/3 dark brown sandy silt natural overbank deposition; this stratum was sterile.

One feature (Feature 1) was located during the field investigations. This feature, a 1.1 m square configuration of vertical boards, was situated toward the downriver end of the site, southwest of Unit N93, E182 (Figure 20). Located at the river's edge, it was covered by the river during June and July 1989. The upper 20-30 cm of the feature were excavated in August 1989, and its surface expression was recorded. The feature was constructed of vertical handhewn cypress boards.

An auger test was placed within Feature 1 to ascertain its stratigraphy. The upper meter contained a 10YR 4/1 dark gray clay mottled with ferrous oxides. From 1.0 m to 1.6 m contained 10YR 4/1 dark gray clay heavily mottled with 5YR 3/4 dark reddish brown clay. A handmade brick fragment and some small wood fragments were recovered



- I: 10YR 7/2 LIGHT GRAY SILT, LAYERED WITH THIN BANDS OF 10YR 4/2 DARK GRAYISH BROWN CLAYEY SILT.
- II: 10YR 4/2 DARK GRAYISH BROWN SILTY CLAY, MIXED WITH 10YR 4/3 DARK BROWN SILTY CLAY.
- III: 10YR 4/3 DARK BROWN CLAYEY SILT, MIXED WITH 10YR 5/2 GRAYISH BROWN CLAYEY SILT.
- IV: 10YR 5/2 GRAYISH BROWN CLAYEY SILT, MOTTLED WITH 10YR 4/3 DARK BROWN CLAYEY SILT.

Figure 18. Stratigraphic profile of Unit N93, E182 at 16IV160, facing south.

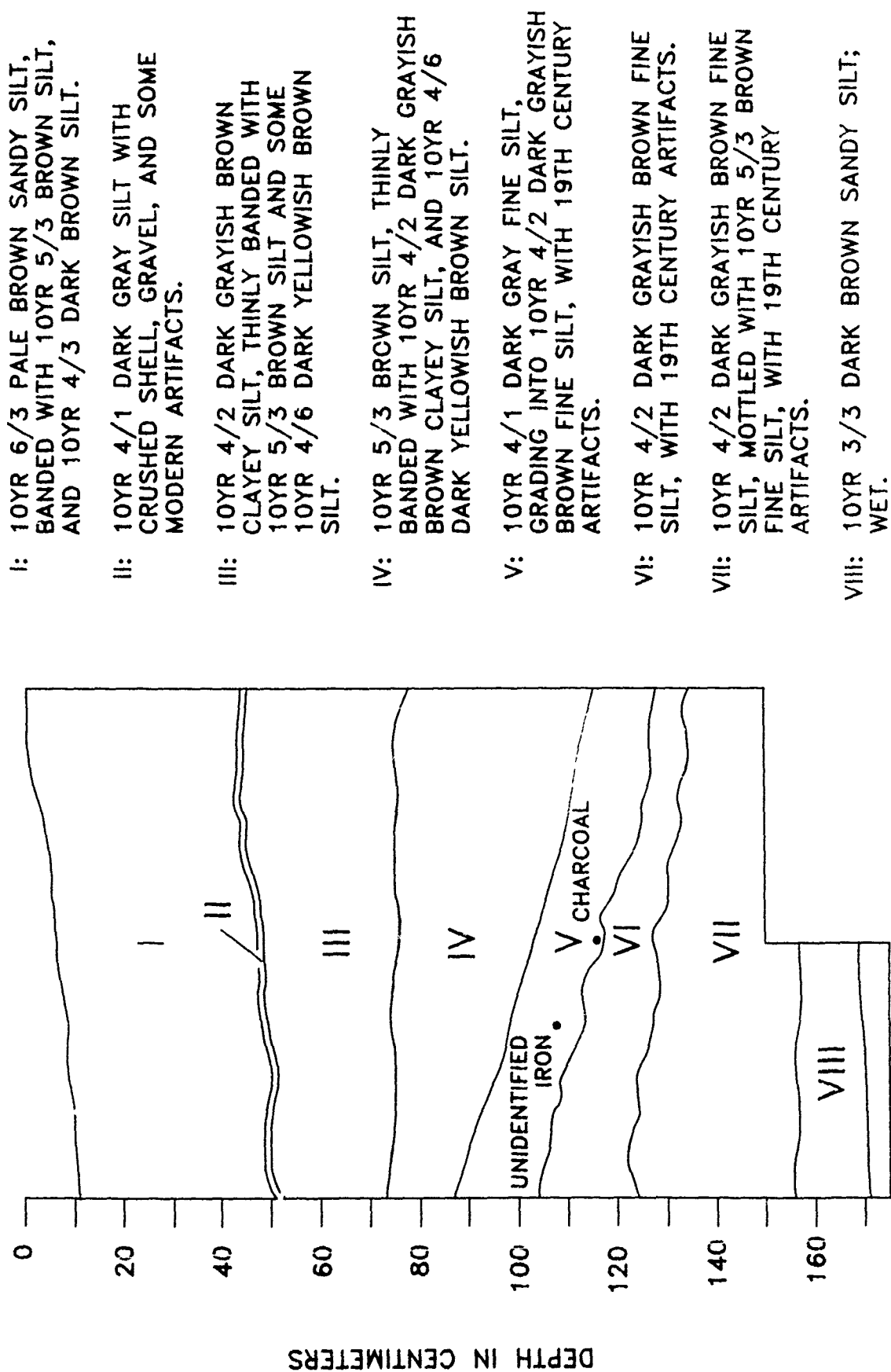


Figure 19. Stratigraphic profile of Unit N101, E375 at 16IV160, facing west.

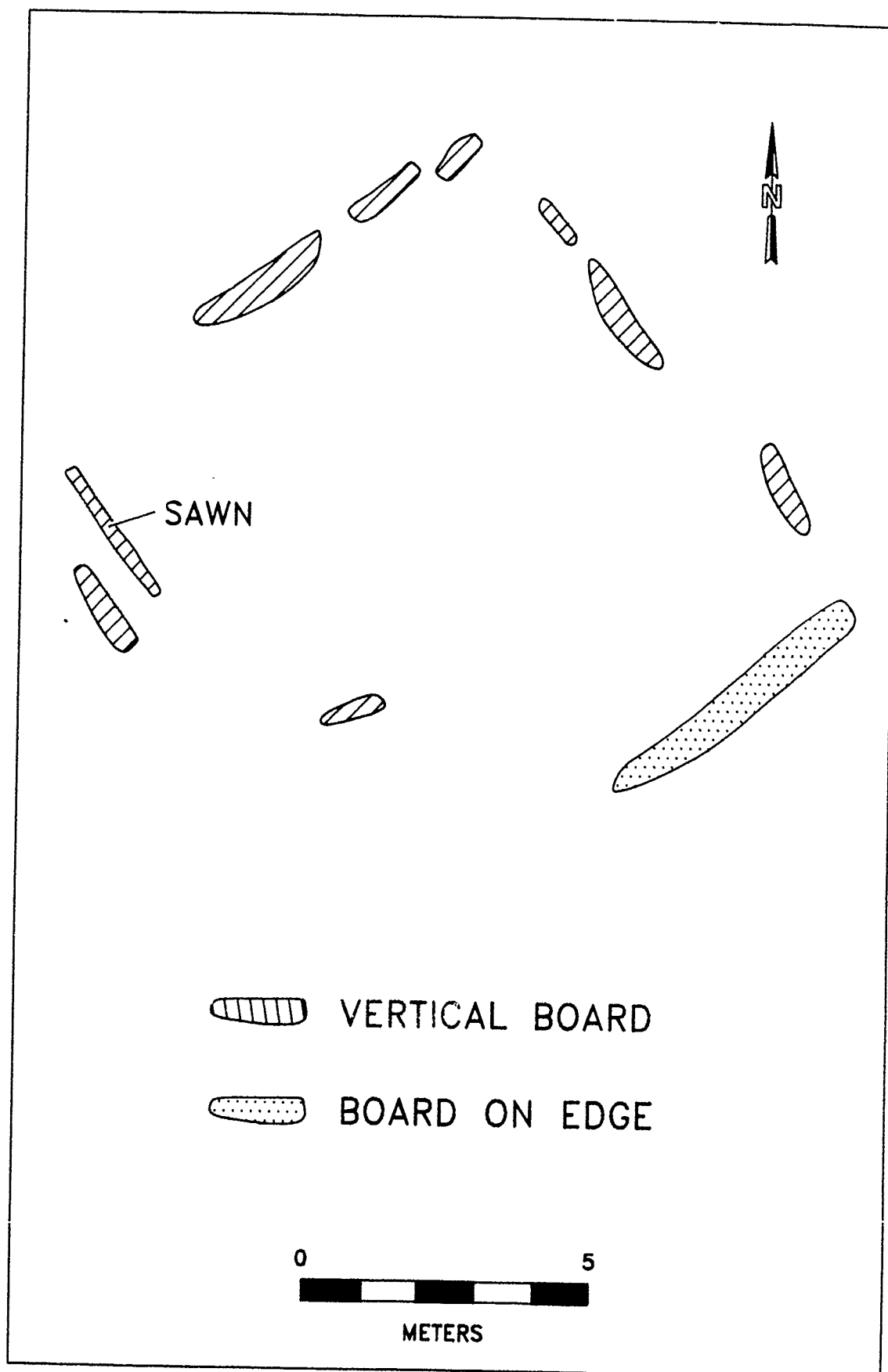


Figure 20. Plan of Feature 1 at 16IV160.

at about 26 cm; there was no evidence these were in situ. There was no wooden floor to the feature, and no other evidence of cultural deposits was recovered.

While an insufficient amount of the feature survived to identify its function positively, it may be the lower remains of a privy. It probably was constructed prior to the 1876 setback of the Clarabel Levee (Figure 11), and its use may have ended at that time. In situ archeological deposits within the feature were not encountered.

The small 7 m north-south by 12 m east-west concentration of iron pins, spikes, and bolts was located adjacent to the river. Based on the data recovered from the excavation unit placed in this concentration, Unit N93, E182, the material appeared to be confined primarily to the surface. The artifacts recovered from N93, E182 were consistent with the expected remains of a scow-shaped wooden river barge or flat constructed with timber-on-timber sides. These vessels were constructed with 12 in to 18 in high, and 8 in to 12 in thick beams, each placed horizontally, one on top of the other, to form the vessel's sides. The beams were secured with long iron pins which were driven through two or three beams. Iron spikes, 6 in to 8 in long with 3/8 in square shafts, were used to secure the bottom planks and deck planking to the frame. In addition, approximately 3/4 in diameter iron bolts were used for internal bracing. Finally, these vessels often were constructed from oak; this oak would not survive the alternating wet-dry batture environment. While these types of vessels were used between 1800 and 1940, those assembled with round pins probably were built during the second half of the period (Allen R. Saltus, Jr., personal communication 1989).

The iron hardware may be the remains of a scow-shaped wooden barge. At least some of the observed pins, which were up to 108 cm long, were bent apparently to conform to the shifting of the three beams. The observed spikes were approximately 15 cm (6 in) long, with 1 cm (3/8 in) square shafts. Some iron bolts, 30.5 cm (12 in) long with 1.9 cm (3/4 in) diameter shafts, also were present. No wood was present. Based on these similarities, the iron hardware remains tentatively were identified as the remains of one of these barges or flats. Also, because all the iron pins are round, the vessel probably dates from the postbellum period, or possibly as late as the twentieth century. It remains unclear whether the vessel sank at this location, or if the hardware was discarded from a stripped vessel. It appears unlikely that the remains are associated with the archeological deposits scattered throughout the rest of the site.

The Clara Belle Plantation site (16IV160) probably represents the remains of the 1876 Clarabel Levee. A comparison of the location of this site with the 1879-1880 Mississippi River Commission map (Figure 7) indicates that the site is a few hundred meters upriver from the illustrated domestic complex at Clara Belle Plantation, near the upriver end of the property. It lies adjacent to, and overlaps, the Clarabel Levee, which was constructed in 1876 (Figure 11), and is depicted on the MRC map (Figure 7). While the refuse may be associated with the pre-levee occupation of the area, it appears more likely that these deposits are related to the construction of the levee. The culturally deposited fill located in Units N93, E182 and N101, E375 is similar to mixed levee fill deposits recorded elsewhere (Goodwin, Armstrong et al. 1988; Goodwin, Hinks et al. 1989). The presence of this characteristic fill in two widely spaced units suggests that

historic fill is widespread throughout the area. Feature 1, the possible privy, was located a short distance riverward from the probable levee alignment; it probably was destroyed during construction of the 1876 Clarabel Levee setback.

Summary

During field investigations within the Missouri Bend and Plaquemine Bend Revetment Items, one archeological site, the Clara Belle Plantation site (16IV160), was identified. This site is located in the Plaquemine Bend Reach. No sites or historic standing structures were present in the Missouri Bend Reach, where borrowing destroyed the archeological integrity of most of this reach. Many of the sites originally situated along the Plaquemine Bend Reach were destroyed by riverine cutting; other probable remains were damaged or destroyed by the excavation of borrow pits or by levee construction.

Significance assessment of the Clara Belle Plantation site consisted of systematic surface collection, and of shovel and auger testing. In addition, two 1 x 2 m test units and one 1 x 1 m test unit were excavated at the site; a square board feature was recorded. Domestic refuse associated with Clara Belle Plantation, and the probable remains of a scow-shaped wooden barge or flat, were recovered from the site. However, other than the highly damaged wooden feature, no in situ deposits were located. Rather, most of the site may represent materials associated with the construction of the 1876 Clarabel Levee which crosses in front of Clara Belle Plantation.

CHAPTER VII

LABORATORY ANALYSIS

Introduction

A total of 347 artifacts and 22 ecofacts were recovered during testing of 16IV160, the Clara Belle Plantation site. These included 172 ceramic sherds and four ceramic objects, 76 metal fragments, 70 glass fragments, and three partial handmade bricks. Ecofacts include 18 animal bones, three oyster shells, and wood charcoal. Artifacts were washed and sorted by material category, cataloged, and encoded into a computerized site catalog to allow further manipulation of the data.

The computerized site catalog is organized by category, functional group, type, and subtype. The first level, **category**, is based on the format used by the Louisiana Division of Archaeology. The second level, **functional group**, is based on the classification established by South (1977). The third and fourth levels, **type**, and **subtype**, are defined by diagnostic attributes.

The following discussion describes the artifacts recovered from controlled surface collection, shovel and auger testing, and unit excavations. Materials collected from 16IV160 are listed in Table 2. Table 3 lists chronological information on ceramic and glass types, and on nails. Figure 21 shows artifact frequency from controlled surface collection. Attribute data was recorded for length, width, thickness, Munsell color designations, hardness values derived from the Mohs test, presence or absence of glaze or mortar, and recordation of maker's marks.

Surface Collection

Two hundred fifty-three artifacts and 16 animal bones were recovered during controlled surface collection at the Clara Belle Plantation site. The surface collection was conducted in 25 m intervals to determine artifact concentrations within the site as well as to define any temporal variances between them (Chapter V).

Within the controlled surface collection, both upriver and downriver areas of artifact concentrations were observed (Figure 21). The upriver concentration was located between grid coordinates E325 and E375; the downriver concentration was found between grid coordinates E125 and E200. Additionally, a smaller downriver concentration of iron pins, spikes, and bolts was observed near grid coordinate N90, E185; these artifacts may be the remains of a wooden river barge.

The upriver concentration consisted of 74 artifacts including 54 ceramic sherds, 10 glass fragments, 9 metal artifacts, and one partial handmade brick. Two animal teeth and one animal bone also were included in the upriver concentration. Three artifacts, two pieces of mortar and a ceramic sherd were collected between grid coordinates E375 and

Table 2

MATERIAL RECOVERED FROM SITE 16IV160						
	<u>Surface Collection</u>	<u>Shovel & Auger Tests</u>	<u>Feature 1</u>	<u>Unit E93 E182</u>	<u>Unit N101 E375</u>	<u>Unit N103 E152</u>
CERAMIC MATERIALS						
Porcelain						
Undecorated, Hard	2					
Door Knob	1					
Button	1					
Stoneware						
Domestic Gray, Salt Glazed Undecorated	1				2	
Domestic Gray, Salt Glazed and Albany Slip	1					
Unidentified Domestic Gray	1					
Domestic Brown, Salt Glazed on Buff	3				1	
Industrial, Buff Bodied	1					
Pearlware						
Plain	7					
Whiteware						
Plain	67			1	11	2
Dipped/Annular	17				1	
Embossed	2					
Flow Blue	2					
Scalloped Rim, Impressed Curved Lines	7				1	
Scalloped Rim, Impressed Straight Lines	3					
Unscalloped Rim, Impressed Lines	3					
Unscalloped Rim, Unmolded	2					
Sponged	4					
Transfer Printed	9					
Molded	1					
Hand-Painted, Polychrome	5					
Blue Hand-Painted	5	1				
Ironstone						
Doll's Head	1					
Yellowware						
Plain	1					
Dipped/Annular	4					
Redware						
Clear Glaze	1					
Unglazed					2	
Tin Glazed Earthenware	1					
Ornamental Architecture	1					
	60					

	<u>Surface Collection</u>	<u>Shovel & Auger Tests</u>	<u>Feature 1</u>	<u>Unit E93 E182</u>	<u>Unit N101 E375</u>	<u>Unit N103 E152</u>
CONSTRUCTION MATERIALS						
Brick, Hand-Made, Partial	3					
Brick Fragments			1	2	5	3
Mortar	2			1		
Other					5	
FAUNAL (Non-Human)						
Unidentified Bone	13	2				
Unidentified Tooth	3					
GLASS						
3-Piece Shoulder Height Mold/Tooled Lip						
Dark Green	1					
Turn Paste Mold/Base						
Dark Green	1					
Blown in Mold						
Clear					1	
Dark Green	7					
Green	1					
Aqua	2				1	
Molded	1					
Fire Polished Lip						
Dark Green	1					
Cracked Off Lip						
Dark Green	1					
Iron Pontil Base						
Dark Green	1					
Lamp Glass						
Clear					1	
Tumbler						
Clear, Pressed	1					
Clear, Lead	2					
Bottle Seal						
Dark Green	1					
Green					1	
Machine-Made						
Clear	1					
Amber					1	1
Green					3	
Window Glass						
	2				2	1

	<u>Surface Collection</u>	<u>Shovel & Auger Tests</u>	<u>Feature 1</u>	<u>Unit E93 E182</u>	<u>Unit N101 E375</u>	<u>Unit N103 E152</u>
Unidentified Bottle Glass						
Clear	2				2	
Amber	1					
Aqua						1
Light Green	1				2	
Green	1				6	
Dark Green	14				5	
METAL						
Barbed Wire	1					
Wire	2					
Bolt				1		
Spike	4					
Railroad spike	1					
Hook	1					
Eye	1					
Kettle					1	
Spoon	1					
Handwrought Iron Spade	1					
Staple					1	
Buckle	1					
Pin (Barge Construction)				2		
Buck Shot	1					
.22 Rimfire Cartridge					1	
Iron Hanging Weight	1					
Shoe Hammer	1					
Nails						
Cut	22			1	6	
Unidentified	1				4	
Unidentified Hardware	1					
Unidentified Metal Objects	10				9	
SHELL						
Button	2					
Oyster					2	1
WOOD						
Charcoal					1	
OTHER						
Cigarette Filter					1	
TOTAL	269	3	1	8	79	9

Table 3

CHRONOLOGY OF CERAMIC TYPES, GLASS TYPES, AND NAILS RECOVERED FROM SITE 16IV160

<u>Material Type</u>	<u>Use Popularity Date Range</u>	<u>Mean</u>	<u>Date Source</u>
CERAMIC WARE AND DECORATION			
Porcelain			
Button	post 1840		Hinks 1988
Stoneware			
Domestic Gray, Salt Glazed Undecorated	1790-1910	1850	Ketchum 1971
Domestic Gray, Salt Glazed and Albany Slip	1810-1900	1855	Goodwin, Yakubik et al. 1984
Industrial, Buff Bodied	1850-1900	1875	Ketchum 1971
Pearlware			
Plain	1780-1830	1805	South 1977
Whiteware			
Plain	1820-1900 +		South 1977
Dipped/Annular	1820-1890	1855	Ramsay 1947; South 1977
Embossed	1820-1845	1829	Miller n.d.
Flow Blue	post 1840		Miller 1988 ¹
Polychrome, Hand-Painted, Black Stem	1830s-1870s		Miller 1988 ¹
Scalloped Rim, Impressed Curved Lines	1820-1845	1833	Miller n.d.; South 1977
Scalloped Rim, Impressed Straight Lines	1820-1840	1830	Miller n.d.; South 1977
Unscaloped Rim, Impressed Lines	1825-1891	1849	Miller n.d.
Unscaloped Rim, Unmolded	1850-1897	1879	Miller n.d.
Sponged	ca. 1850s-1920s		Miller 1988 ¹
Transfer Printed	post 1820		Miller 1989 ¹
Yellowware			
Plain	1830-1900	1865	Ramsay 1947
Dipped/Annular	1830-1900	1865	Ramsay 1947
DIAGNOSTIC GLASS ATTRIBUTES			
3-Piece Shoulder Height Mold	1820s-1900 ²		Jones and Sullivan 1985
Turn Paste Mold	1870s-1920s		Jones and Sullivan 1985
Lip, Tooled	1820s-1920s		Jones and Sullivan 1985
Fire Polished Lip	ca. 1880		Munsey 1970
Iron Pontil	1845-1875	1860	Munsey 1970
Machine-made Bottle	post 1920		Munsey 1970
NAILS			
Cut	1815-1890	1853	Nelson 1963

¹Personal communication.²For liquor bottles.

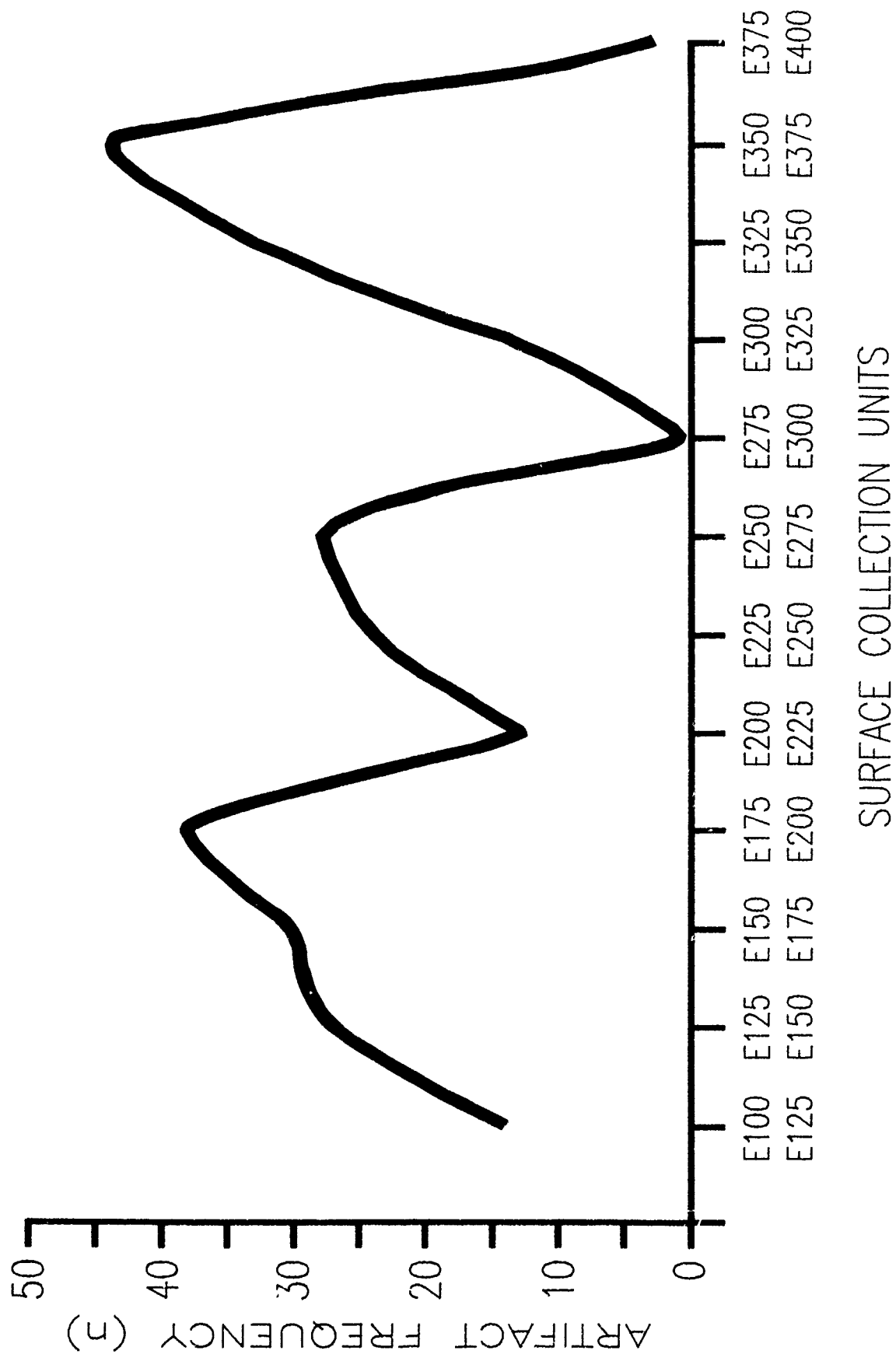


Figure 21. Artifact frequency by surface collection grid coordinates for the Clarabelle Plantation site (16IV160).

E400 and were not considered part of the upriver surface concentration.

The downriver concentration contained 84 artifacts. These included 46 ceramic sherds, 20 metal artifacts, 14 glass artifacts, two partial handmade bricks, and two shell buttons. Ten animal bones also were recovered from the downriver concentration. Artifacts collected between grid coordinates E100 and E125 marked the outermost region of the downriver surface collection, but they were not included with the downriver surface concentration. Artifacts recovered from this outlying area included eight ceramic sherds, five glass fragments, and one metal spike. In addition, one 7 in (17.8 cm) long spike was collected in the area attributed to the remains of the wooden barge (Chapter VI).

Seventy-seven artifacts were collected between the upriver and downriver concentrations from grid coordinates E200 to E325. Artifacts recovered included 45 ceramic sherds, 19 metal artifacts, and 13 glass fragments. Two animal bones and one animal tooth also were collected.

A comparison was made between the upriver and downriver surface collections. Although artifact concentrations within the upstream area were slightly greater, no significant difference in frequency or content was observed between downriver (n=46) and upriver (n=54) ceramic concentrations. The 45 ceramic sherds collected between the upriver and downriver concentrations were not significantly different from those recovered from either concentration area. The remaining nine ceramic sherds were recovered from the outlying areas between E100 and E125 (n=8), and between E375 and E400 (n=1).

Of the 50 metal artifacts recovered, 20 came from the downriver concentration, nine were collected at the upriver concentration, and 19 were found between the two areas. The remaining two artifacts included one spike recovered between E100 and E125, and the 7 in long spike collected in the area of the wooden barge remains.

Fourteen glass fragments were located in the downriver concentration, while 10 fragments, including a bottle seal, were found in the upriver concentration. Thirteen glass fragments were located between the upriver and downriver concentrations, while the remaining five pieces of glass came from the outlying area between E100 and E125. Two of the three partial handmade bricks were located in the downriver concentration and one was found in the upriver concentration. Two pieces of mortar were collected in the outlying area between E375 and E400. Two shell buttons were located in the downriver concentration. Ten animal bones were recovered at the downriver concentration, while only two animal teeth and one animal bone were found at the upriver concentration. Two animal bones and one tooth were collected between the upriver and downriver concentrations.

The differences between the upriver and the downriver concentrations were not significant. Therefore, the remainder of this section discusses contents of the surface collection without regard to location along the river.

One hundred and fifty-four ceramic artifacts were recovered; plain whiteware sherds were the most numerous (n=67). The use popularity date range for plain whiteware is 1820-1900+. Two of the 67 plain whiteware sherds displayed maker's marks. The first was identified as part of a British Royal Arms maker's mark. This mark was copied by the British, as well as by other foreign firms (including American) during the nineteenth and twentieth centuries (Godden 1964; Kovel 1977). Because the mark was incomplete, a more precise date could not be determined. The other mark read "[EL]SMORE/& FORSTER/TUNSTALL." This was the maker's mark of Elsmore & Forster, and dates from 1853 to 1871 (Godden 1964).

Other whiteware sherds collected include 17 dipped/annular whiteware sherds, nine transfer printed sherds, five hand-painted polychrome whiteware sherds, five pieces of blue hand-painted whiteware, four sponged whiteware sherds, two embossed sherds, two flow blue whiteware sherds, and one molded handled teacup base. Fifteen pieces of blue shell-edged whiteware were recovered. Seven displayed scalloped rims with impressed lines; three displayed scalloped rims and impressed straight lines; three sherds had unscalloped rims and impressed lines; and, two had unscalloped rims and were unmolded.

The use popularity date range for dipped/annular whiteware is 1820-1890, with a mean date of 1855. Whiteware transfer printed sherds post-date 1820. Hand-painted polychrome whiteware has the same use popularity date range as plain whiteware. However, one hand-painted polychrome whiteware sherd contained a black stem; these were popular from the 1830s to 1870s.

The use popularity date for blue hand-painted whiteware also corresponds to the date for plain whiteware. Sponged whiteware was popular ca. 1850s-1920s while whiteware with embossed patterns dates from 1820-1845, with a mean date of 1829. The use popularity dates for shell-edged whiteware are 1820-1845 for scalloped rims with impressed curved lines, and 1820-1840 for scalloped rims with impressed straight lines. The mean dates are 1833 and 1830, respectively. Shell-edged whiteware with unscalloped rims and impressed lines was popular from 1825-1891, with a mean date of 1849; whiteware with neither rim scalloping nor molding has a use popularity date range of 1850-1897, with a mean date of 1879.

Seven pieces of pearlware also were recovered during surface collection. Pearlware has a use popularity date range of 1780-1830, with the mean date of 1805. Five pieces of yellowware, four dipped/annular, and one plain, were recovered. Plain and dipped/annular yellowware were popular from 1830-1900, with the mean date of 1865. Also collected were one clear glazed redware sherd and a tin glazed earthenware vessel. The vessel had a blue exterior and a white interior, and may have been a salt container.

Stoneware artifacts include three sherds of salt glazed on buff domestic brown stoneware, one piece of salt glazed and albany slip domestic gray stoneware, one sherd of undecorated salt glazed domestic gray stoneware, and one unidentified domestic gray stoneware sherd. One piece of buff bodied industrial stoneware also was collected. The use popularity date range for salt glazed undecorated domestic gray stoneware is 1790-

1910, with a mean date of 1850. Salt glazed domestic gray stoneware with an albany slip was popular between 1810-1900, with a mean date of 1855. The use popularity date range for buff bodied industrial stoneware is 1850-1900, with a mean date of 1875.

Two pieces of undecorated hard porcelain were collected. A porcelain door knob and a porcelain button also were found. Porcelain buttons post-date 1840. The last two ceramic materials recovered from the surface collection were an ironstone doll's head, and a molded stoneware face. The doll's head measured about 15mm in diameter. The molded stoneware face appears to have been an ornamental piece of architecture, possibly a tile.

Fifty metal artifacts constitute the next largest material category recovered through surface collection at the Clara Belle Plantation site. Five spikes, including one railroad spike, were collected; they ranged in size from 3 1/4 in (8.3 cm) to 7 in (17.8 cm) long.

Three pieces of wire, including one piece of barbed wire, one hook, one iron eye, and an iron buckle also were collected. Other metal artifacts included 22 cut nails and one unidentified nail fragment, one brass bowl from a spoon, and one lead buck shot. Cut nails have a use popularity date range of 1815-1890, with a mean date of 1853. The lead buck shot compared favorably to size number four listed in *The 1902 Edition of the Sears Roebuck Catalogue* (Sears, Roebuck and Company 1969).

One handwrought iron spade, measuring about 7 1/4 in (18.4 cm) wide and 10 1/2 in (26.7 cm) long, was recovered. The measurements were approximate because the spade's edges were deteriorating. One 885.8 g (approximately 2 lbs) iron hanging weight was found, as was one iron shoe hammer head. Similar shoe hammers were illustrated in both the reprinted 1865 *Illustrated Catalogue of American Hardware of the Russell Erwin Manufacturing Company* (Russell and Erwin 1980) and in *The 1902 Edition of the Sears Roebuck Catalogue* (Sears, Roebuck and Company 1969).

The last of the metal artifacts included ten unidentified metal objects, and one unidentified piece of metal hardware. The ten unidentified metal objects included one unidentified nonferrous oval metal specimen made from sheet pewter.

Glass artifacts made up the third largest material category found during surface collection at 16IV160. The 42 glass fragments included one dark green oval bottle seal, and one dark green wine bottle. The bottle seal measured 1 in (2.54 cm) in diameter and read "ELIXER DE GUILLER." These three words encircled a larger capital "G" that was embossed in the middle of the seal. The wine bottle was made from a three piece shoulder height mold and had a tooled lip. This type of mold dates from the 1820s to 1900 for liquor bottles; the use popularity date for tooled lips ranges from the 1820s to the 1920s.

Two bottle bases, one iron pontil marked, the other a turn paste mold base, were collected. Both bases were dark green in color. Iron pontil marked bases date from 1845 to 1875, with a mean date of 1860. Turn paste mold bases have a use popularity date range from the 1870s to the 1920s. Two bottle lips, one fire-polished and one with a

cracked-off finish, also were recovered. Fire-polished bottle lips date ca. 1880; cracked-off bottle lips are found on eighteenth century English and French wine bottles, and on eighteenth century French narrow-mouthed containers. Glass containers with cracked-off bottle lips continued to be used during the nineteenth century (Jones and Sullivan 1985).

Eleven pieces of blown in mold glass were recovered, including two fragments of dark green case bottle glass. One case bottle fragment was embossed with "M/...S". Other blown in mold glass colors are listed in Table 2. Two window glass fragments and three clear pieces of tumbler also were collected. Two of the three tumbler fragments were made of lead glass; the other was pressed glass. One clear fragment of machine-made glass also was found. Machine-made glass post-dates 1920. Nineteen unidentified bottle glass fragments, fourteen of which were dark green, also were found during surface collection.

Artifacts from the construction material category include three partial handmade bricks and two pieces of mortar. All three bricks had the Mohs hardness value of 5.5. Because all were broken, length measurements could not be obtained. The first brick was very pale brown (10YR 7/3) and measured 10.1 cm wide and was 5.9 cm thick. Its proximity to the kiln fire had caused it to glaze. The brick was stamped with the maker's mark "J.G.". Those initials stood for J. Gunn, who was the owner of The Clara Belle Plantation. The second partial handmade brick also was very pale brown (10YR 7/3) in color, and measured 10.2 cm wide and was 6.1 cm thick. The brick partially retained the J. Gunn maker's mark, with "J." stamped on it. The last partial handmade brick was light brown (7.5YR 6/4) and measured 10.2 cm wide and 6.0 cm thick. The initials "J.G." were stamped on the brick.

Two shell buttons were recovered during surface collection. Use of these buttons was uncommon during the eighteenth century; the popularity of this type of button reached its height from the mid to late nineteenth century (Hinks 1988). Thirteen unidentified mammal bones and three unidentified mammal teeth also were found, including one sawn large mammal bone and one chopped mammal bone.

The dates for the surface artifacts fall within the nineteenth century, for the most part, and could predate the 1876 levee construction. Additionally, the "J.G." bricks, examples of which were found both upriver and downriver, indicate that the mill may have originated from Clara Belle Plantation.

Shovel, Auger, and Feature Testing

One downriver shovel test produced one piece of blue hand-painted whiteware. Two unidentified mammal bones were recovered from an upriver auger test. Feature 1, a possible privy, was located downriver and one brick fragment was collected from it.

Unit Testing

Unit N93 E182, located downriver, was excavated in the area of the possible wooden barge. Eight artifacts were collected. Two metal pins were found, one 12 in (30.5 cm) long, the other 34 in (86.4 cm) long. The pins were used to hold the barge frame together (Allen R. Saltus, Jr., personal communication 1989). One 12 in (30.5 cm) bolt was found; it also was used in barge construction. Two brick fragments, one piece of mortar, one whiteware sherd, and one cut nail collected.

Unit N103 E152, also located downriver, produced nine artifacts. Three brick fragments and two pieces of plain whiteware were collected. Glass remains included one amber machine-made glass fragment, one piece of window glass, and one aqua unidentified bottle glass. One oyster shell also was recovered.

One final unit, located at N101 E375, was excavated in the upriver concentration. It yielded 76 artifacts and 3 ecofacts. Glass remains constituted the largest material category (n=25). One dark green round wine bottle seal measured 1 1/4 in (3.2 cm) in diameter. It was embossed with the words "ST./JULIEN/MEDOC." Above and below these words was a tied ribbon or type of bow decoration. "Medoc" is the name of a district of southwestern France, in the northern Bordeaux region, an area renowned for its red wines. "St Julien" is the wine's village of origin, and it is located next to Pauillac, which is near Bordeaux. "St. Julien Medoc" labelled wine is considered to be one of the higher quality red wines (Castille et al. 1982).

French wine seals frequently are found in nineteenth century contexts on south Louisiana sites, but precise dating of the seals is not yet possible because of a deficiency of research (Castille et al. 1982). A French wine bottle seal with the same words, but different design, was located in Lot A, the upper-middle class site, from excavations carried out at Esplanade Avenue and Rampart Street, New Orleans, LA in 1980 (Castille et al. 1982). Lot A was one of two lots on which houses dated from 1826 to 1840. The bottle seal from 16IV160 may indicate an upper-middle class status, which would conform to the suggestion that the artifacts may have originated at Clara Belle Plantation.

Six machine-made glass fragments, two blown in mold fragments, one piece of lamp glass, and 15 unidentified pieces of bottle glass also were recovered. Twenty-two metal artifacts recovered included six cut nails and four unidentified nail fragments, one kettle fragment, one staple, and one .22 rimfire cartridge. Nine unidentified metal objects were collected, as well.

Eighteen ceramic sherds were found, including eleven pieces of plain whiteware. One dipped/annular whiteware sherd, and one blue shell-edged whiteware sherd with scalloped rim and impressed curved lines, were found. Three stoneware sherds included two pieces of undecorated salt glazed domestic gray stoneware and one salt glazed on buff domestic brown stoneware sherd. Two unglazed redware sherds complete the ceramic artifact list.

Five brick fragments and five pieces of plaster were found. One synthetic item, a cigarette filter, was collected. Three ecofacts were found: two oyster shells, and one piece of charcoal. The four machine-made bottle glass fragments, the .22 rim fire cartridge, and the cigarette filter all fell within the top 40-45 cm, or were located within Stratum II (Figure 19, Chapter VI). The rest of the artifacts and ecofacts came from Strata V-VII. The artifacts date from the nineteenth century.

Summary

A small collection of metal artifacts was recovered during controlled surface collection and unit excavation at the smaller downriver concentration associated with a wooden barge. A brick remnant was collected from Feature 1, also downriver. Artifacts collected during the controlled surface collection dated from the nineteenth century and could predate 1876, when the Clarabel Levee was built. Unit excavations from upriver and downriver artifact concentrations revealed more nineteenth century artifacts and tentative evidence of upper-middle class status (the French wine bottle seal). Other than a small amount of modern refuse (six pieces of machine-made glass, one .22 rimfire cartridge, and a cigarette butt), these artifacts could predate the building of the 1876 Clarabel Levee. No significant differences were noted between upriver and downriver artifact groups. In fact, the similarity between the two may indicate that the same kind of material was being used as fill. Furthermore, the presence of bricks stamped with a "J.G." (J. Gunn) maker's mark suggests that the artifacts originated on Clara Belle Plantation.

CHAPTER VIII

SUMMARY AND RECOMMENDATIONS

Summary

A cultural resources survey of the Missouri Bend and Plaquemine Bend Revetment Items located one historic archeological site. The Clara Belle Plantation site (16IV160) was located in the Plaquemine Bend Revetment Item, in Irregular Section 7, Township 9S, Range 13E, Iberville Parish, Louisiana, where the historic Clara Belle Plantation fronts on the Mississippi River. The site was identified during the initial survey of the project area. Two concentrations of domestic refuse containing artifacts from the mid-nineteenth century were identified at the site. A small concentration of iron pins, bolts, and spikes also was observed. In addition, a wooden vertical board feature was located adjacent to the river.

Thirty-one shovel tests, 12 auger tests, two 1 x 2 m units, and one 1 x 1 m unit were placed in the site. This testing revealed that a meter or more of overbank deposition occurred on the upper bank since the formation of the associated archeological deposits. Also, the river continues to cut away at the lower bank, damaging and destroying archeological deposits located in this portion of the site. A mixed deposit of nineteenth century cultural debris is located toward either end of the site. Based on their location, appearance, and artifact content, these deposits may represent the remains of the 1876 Clarabel Levee setback (Figures 7 and 11). Recovered artifacts include domestic debris potentially predating the 1876 levee setback. These remains include one brick and two partial bricks stamped "J.G.," for J. Gunn, the 1870s owner of the Clara Belle Plantation. At least one building in the immediate vicinity of the site was destroyed during construction of the 1876 levee; recovered artifacts may derive from that building. The 1876 Clarabel Levee setback subsequently was replaced with the current levee.

The small concentration of iron pins, spikes, and bolts recorded in the site probably represents the remains of a scow-shaped wooden river barge or flat built with timber-on-timber construction. None of the wood survived, and only a small portion of the vessel's iron is present.

The wooden feature located adjacent to the river consisted of several vertical boards that formed a 1.1 m wide square. This feature may represent the lower portion of a pre-1876 privy, which later was destroyed by the construction of the 1876 Clarabel Levee setback. Testing within the privy indicated no in situ fill deposits.

Recommendations

The Louisiana Division of Archaeology identified several regional themes which are relevant to the Clara Belle Plantation site (Smith et al. 1983:95-97). Two themes relate to the probable levee remains: the influence of the Mississippi River on historic

settlement, and Euro-American influence on the landscape. Levee construction was vital for the historic development of southeast Louisiana, and these levees clearly form an integral component of the region's settlement pattern. In addition, historic levees are recognized as potentially significant cultural resources (Smith et al. 1983:48; Goodwin, Hinks et al. 1989:134). The possible privy remains are associated with the regional theme of plantation archeology. The probable barge or flat remains are associated with the theme of the towing industry, tugs, and barges. Clearly, the site is "associated with events that have made a significant contribution to the broad patterns of our history [36 CFR 60.4 (a)]."

However, the site does not satisfy criteria b through d. It is not associated with significant individuals; and, it does not constitute a distinctive artistic or architectural entity. More importantly, the site has very low research potential and little archeological integrity. Only a remnant of the levee survived. None of the wood, and only some of the iron pieces associated with a probable barge or flat survived, and these do not represent in situ deposits. Finally, only the lower portion of the privy remains, and the original privy fill is gone.

Thus, excavations conducted at the Clara Belle Plantation site (16IV160) indicate that the site does not possess the quality of significance as defined by National Register criteria (36 CFR 60.4). The site does not have archeological integrity or research potential; it is not likely to yield data important to history. No further work is recommended at 16IV160.

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At R. Christopher Goodwin & Associates, Inc., William P. Athens served as Project Manager. Stephen Hinks acted as Field Supervisor. Field Investigators included James M. Wojtala, Rebecca E. Bruce, Jeff Creasy, and Sylvia I. Favret. Shirley Rambeau and Sylvia I. Favret prepared the graphic materials for inclusion in this report. Lyn O'Brien produced the report.

APPENDIX I

SCOPE OF WORK

SCOPE OF SERVICES
CULTURAL RESOURCES SURVEY OF
MISSOURI BEND AND PLAQUEMINE BEND
REVTMENT ITEMS, WEST BATON ROUGE PARISH

CONTRACT DACW29-88-D-0121
DELIVERY ORDER 06

1. Introduction. This delivery order calls for a cultural resource investigation of two construction easements located adjacent to the Mississippi River in West Baton Rouge Parish, Louisiana . The project will require survey of approximately 2.7 discontinuous miles of Mississippi River batture. Aerial mosaic plans for the two items are attached to this scope of service (Enclosures 1 and 2, Mississippi River Mile 0.0 A.H.P. to 330.0 A.H.P., File No. 1-127, Sheets 20, 21 and 23). The contract period for this delivery order is 183 days.

2. Project Impact. The proposed revetment will directly impact the river's bank line. Both reaches will be stabilized with continuous, articulated concrete mattress which is mechanically laid from the low water line to a point several hundred feet into the river channel. To prepare for revetting, a 200 foot wide corridor adjacent to the bank line will be cleared of all vegetation and graded to a standard slope. Slope grading will remove the upper bank line within a 100 foot wide corridor adjacent to the edge of bank . The grading distance will vary in areas where caving has occurred. Any cultural resource within 200 horizontal feet of the bank line and within 10 vertical feet of the ground surface has a high potential for being destroyed. Surficial resources further than 200 feet from the bank line may be subject to disturbance from the movement of heavy equipment, but buried sites will remain intact.

Construction of the Plaquemine Bend Revetment is scheduled for August 1989. The Missouri Bend item will be constructed in the future.

3. General Nature of the Work to be Performed. The Contractor is responsible for: a) surveying approximately 2.7 miles of Mississippi River batture; b) assessing the significance of all previously identified and newly discovered sites and standing structures in the two project reaches (M-224.4 to 223.8-R and 212.6 to 210.5-R); c) predicting the locations of subsurface prehistoric and historic sites within the total project reach; d) assessing the impact of construction, erosion and overbank deposition to the resources found; and e) preparing comprehensive draft and final reports of investigation for the study.

4. Study Requirements. The work to be performed by the Contractor will be divided into three work phases: Literature Search and Records Review; Intensive Survey and Site Assessment; and Data Analysis and Report Preparation. Accommodation of the 1989 revetment construction schedule requires that priority be given to surveying Plaquemine Bend Revetment (U-200 to U-80). A management summary of findings will be submitted separately from the draft report of investigation so that the agency and State Historic Preservation Officer can assess the impact of the item upon any resources found. The data from the management report will then be incorporated into the comprehensive draft and final reports of the investigation for the entire reach.

a. Phase 1: Literature Search and Records Review. The Contractor shall commence, upon work item award, with a literature, map, and records review relevant to the entire project reach (M-225.0 to 210.0-R). Emphasis will be given to the impact areas. However, the literature search should be sufficiently detailed to provide landuse, geomorphological, prior impact, and key site data for the entire reach. The search will identify key known sites and probable sites in the reach between the two revetment items which might be disturbed by future levee construction, borrow excavation or revetment repair. The literature search phase shall include but not be limited to review of historic maps, the State Archeologist's site and standing structure files, the National Register of Historic Places, geological and geomorphological data, archeological reports, ethnohistoric records, historic archives, and public records.

At a minimum, the literature and records review will familiarize the reader with the geomorphology (point bars, cutbanks, crevasses, relict channels, etc.) of the study area; establish the distribution of prehistoric and historic sites in the region and their proximity to the project reach; identify previously recorded sites, standing structures, National Register of Historic Places properties and National Landmarks in or in close proximity to the project reach; provide national, regional and local context for assessing the historical, architectural and archeological contribution of all sites and structures located in the project area; and predict resources which can be expected to be located within the total reach. Economic and social trends, channel migration, major natural events, and all previous construction affecting land use patterns and the state of preservation of predicted resources will be analyzed and presented. The literature search will place this contract effort within the context of similar work conducted previously along the Mississippi River. The focus of this literature search shall be on man's use of this particular reach of the Mississippi River and its natural levee through time.

b. Phase 2: Intensive Survey and Site Assessment. It is preferred that fieldwork follow completion of the literature search so that all relevant data may be incorporated in the design of the survey or be used in interpreting the sites found. However, fieldwork may commence upon delivery order award to meet the compressed schedule of inventorying the Plaquemine Bend Revetment reach should current high river elevations abate and conditions become reasonable to conduct fieldwork.

In the Missouri Bend reach, the survey corridor corresponds to the width of the batture, from the riverside toe of the levee to the low water line of the bank. In the Plaquemine Bend reach, the survey corridor shall extend from the riverside toe of the road to the low water line of the bank. (See Enclosures 1 and 2.)

An intensive survey is a comprehensive, systematic, and detailed physical examination of a project item for the purpose of locating and inventorying all cultural resources within the impact zone. The survey will be performed within the context of an explicit research design (to be presented in the report of investigation), formulated in recognition of all prior investigations in the study area and surrounding region, and will include subsurface testing and evaluation of identified resources against the National Register of Historic Places criteria of significance (36 CFR 60.4). The survey will provide adequate information to seek determinations of eligibility from the Keeper of the National Register, and will innumerate project effects on each resource located within the study area. The evaluation will be conducted utilizing current professional standards and guidelines including, but not limited to :

the National Park Service's draft standards entitled, "How to Apply the National Register Criteria for Evaluation", dated June 1, 1982;

the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation as published in the Federal Register on September 29, 1983;

Louisiana's Comprehensive Archaeological Plan, dated October 1, 1983;

the Advisory Council on Historic Preservation's Section 106 Update/3 entitled, "Manual of Mitigation Measures (MOMM)", dated October 12, 1982.

The survey shall be an intensive pedestrian investigation augmented by systematic subsurface testing. Maximum survey transect width will not exceed 20 meters. The acreage surveyed and all sites located within project boundaries will be recorded (in ink) to scale on the appropriate 7.5 minute quadrangle and aerial mosaic project maps. The quadrangle maps will be used to illustrate site forms (see below). One copy of each of the two aerial mosaic project maps, marked with the locations of all sites and historic structures in the project easements, will be returned to the COR with the draft report of investigation.

All sites will be sufficiently tested using shovel, auger or other excavation techniques to determine and record site size, depth of deposit, stratigraphy, cultural association, function, approximate date of occupation, and condition. Site boundaries, test excavation units at sites (including test pits, shovel tests, auger intervals, backhoe trenches, etc.) and activity areas will be measured and mapped to scale. All scaled field maps will accurately reference grid locations in terms of levee stations or range markers in close proximity to the work area.

All shovel tests and test excavation units will be backfilled immediately upon completion.

The COR will be informed ahead of time of the testing schedule of all sites.

All standing structures located in the survey area will be identified by function, dated and described using standard terminology of formal and/or vernacular architecture, as appropriate to each structure. Each standing structure predating 1945 and/or of potential National Register eligibility will be recorded (using a simplified, standardized format selected by the Division of Archaeology and Historic Preservation), accompanied by a minimum of three, clear, black and white photographs showing front, back and side views of the structure. The Contractor will determine whether subsurface features are present. If present, the structure and all features shall be treated as a site, which shall be mapped and recorded on State of Louisiana site forms. The Contractor shall assess the significance of all standing structures using information collected during the survey and literature search phases of this work item.

If buried sites exist in either project right-of-way which require extensive testing to determine their condition, data producing potential or significance, the need for further work will be discussed with the COR prior to the completion of all field work.

c. Phase 3: Data Analyses and Report Preparation. All survey and testing data will be analyzed using currently acceptable scientific methods. The Contractor shall catalog all artifacts, samples, specimens, photographs, drawings, etc., utilizing the format currently employed by the Office of the Louisiana State Archeologist. The catalog system will include

site and provenience designations. All literature, map search, field and laboratory data will be integrated to produce a single, graphically illustrated, scientifically acceptable draft report discussing the project reach as a single unit. Historic and geomorphological data relevant to the project area are to be analyzed in conjunction with physical data to determine the probable presence of buried resources and the impact of previous construction on such resources. These analyses will be reported within the context of the physical environment of the Mississippi River batture, nineteenth and twentieth century public works construction techniques, current knowledge of site distribution by period and phase on the natural levee, and the body of archeological work conducted on the Mississippi River's natural levee in Louisiana.

Project impacts on all cultural resources located and/or tested by this study will be assessed. The Contractor shall provide justification of the rationale used and a detailed explanation of why each resource does or does not meet the National Register significance criteria (36 CFR 60.4). For each resource recommended as eligible to the National Register and assessed to be impacted by construction, the Contractor shall recommend specific mitigation alternatives. Inferential statements and conclusions will be supported by field, map or archival data. It will not be sufficient to make significance recommendations based solely upon the condition or artifactual content of the site in question. All significance assessments of sites and structures will be stated in terms of the context of similar Mississippi River floodplain sites and the specific scientific contribution of the site, site component or structure which requires protection or mitigation.

5. Reports.

a. Monthly Progress Reports. One copy of a brief and concise statement of progress shall be submitted with and for the same period as the monthly billing voucher throughout the duration of the delivery order. These reports, which may be in letter form, should summarize all work performed, information gained, a characterization of sites found and their significance, and problems encountered during the preceding month. Those monthly reports which discuss survey results will be accompanied with a map of the site locations introduced. A xerox of the appropriate hydrographic survey chart (to be provided to the Contractor by the COR) is the preferred base map for such illustration. A concise statement and graphic presentation of the Contractor's assessment of the monthly and cumulative percentage of total work completed by task shall be included each month. The monthly report should also note difficulties, if any, in meeting the contract schedule.

b. Site Forms. The Contractor will fill out and file state site forms with the Office of the Louisiana State Archeologist and cite the resulting state-assigned site numbers in all draft and final reports of this investigation. The Contractor will submit updated state site forms to the State Archeologist for all previously discovered sites. These forms will correct previously filed information and summarize what is known of each resource as a result of this investigation. One unbound copy of each site or standing structure form will be submitted to the COR with the draft report.

c. Management Summary. The contractor will furnish to the COR no later than June 5, 1989, three copies of a management summary discussing the results of survey and site assessment in the Plaquemine Bend Revetment reach (Ranges U-200 to U-80). The summary may take the form of an expanded letter report which: discusses in detail the research, survey and testing methods used to study the reach in question; presents the salient environmental and historical data which provides context for interpreting the survey and testing results; presents supportable arguments for or against the assessment of

significance for each site or standing structure in the construction segment; and is illustrated with tables and maps showing numbers of sites found, site characteristics, site size, site significance, and precise location with reference to the boundaries of the Plaquemine Bend Revetment easement. The management summary will be accompanied with one unbound copy of each site or standing structure form for the sites discussed in the document.

d. Draft and Final Reports (Phases 1, 2, and 3). Five copies of a draft report integrating all phases of this investigation will be submitted to the COR for review and comment 92 days after the date of the order.

An estimate of the acreage surveyed for this project will be given in the report introduction. All sites and standing structures located within the survey corridor will be identified in a table in the introductory chapter by revetment item.

The draft and final reports shall include all data and documentation required by 36 CFR 60-63 to prepare requests for Determination of Eligibility to the National Register of Historic Places for those sites recommended by the Contractor as significant. The Contractor shall recommend appropriate mitigation procedures for each significant cultural resource. For those sites considered worthy of additional testing, the Contractor will recommend a specific testing scheme which is appropriate to the site, its physical setting and condition.

In order to preclude vandalism, the draft and final reports shall not contain specific locations of archeological sites.

These written reports shall follow the format set forth in MIL-STD-847A with the following exceptions: 1) separate, soft, durable, wrap-around covers will be used instead of self covers; 2) page size shall be 8-1/2 x 11 inches with a 1-1/2-inch binding margin and 1-inch margins on other edges; 3) the text reference and Reference Cited formats of the Society for American Archaeology will be used. Spelling shall be in accordance with the U.S. Government Printing Office Style Manual, dated January 1973.

The body of each report shall include the following: 1) introduction to the project reach; 2) environmental setting; 3) review and evaluation of previous archeological investigations; 4) distribution of known prehistoric and historic settlement in the study area; 5) research design; 6) description of field and laboratory methodology, statement of project objectives, analysis of effectiveness of methods; 7) data analyses and cultural material inventories; 8) data interpretation; 9) data integration; 10) conclusions; 11) recommendations; 12) references cited; and 13) appendices, as appropriate.

The COR will provide all review comments to the Contractor within 60 days after receipt of the draft reports (152 days after delivery order award). Upon receipt of the review comments, the Contractor shall incorporate or resolve all comments with the approval of the COR. Upon approval the Contractor shall submit one reproducible master copy and 40 bound copies of each report of investigation, and all separate appendices to the COR within 183 days after work item award.

6. Disposal of Records and Artifacts. All records, photographs, artifacts, and other material data recovered under the terms of this delivery order shall be recorded and catalogued in a manner compatible with those systems utilized by the Louisiana SHPO and by

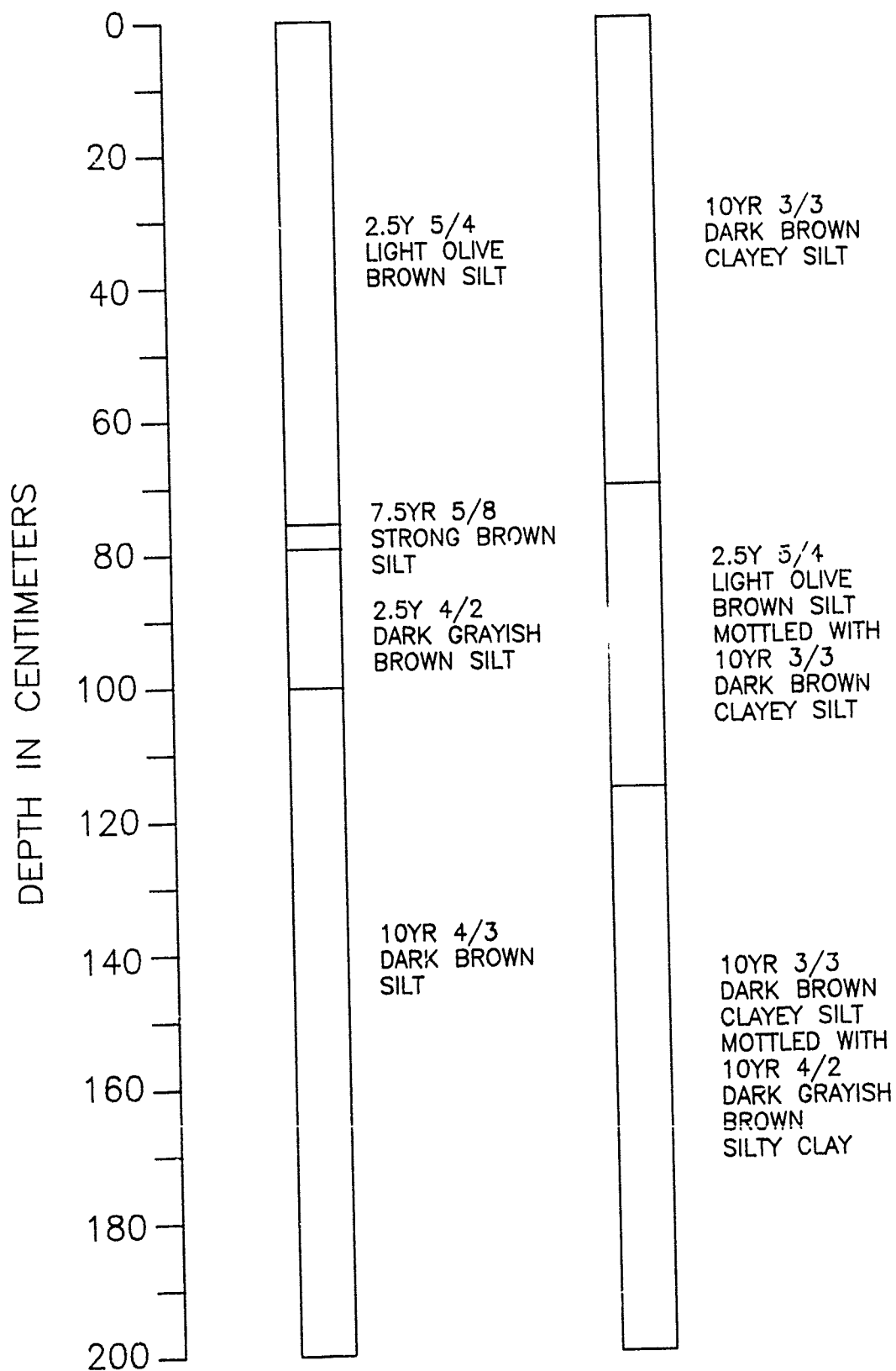
State and Federal agencies which store archeological data. They shall be held and maintained by the Contractor until completion of the delivery order. Final disposition of the artifacts and records will be in accord with applicable Federal and State laws. Unless otherwise specified, artifacts will be returned to the landowner or permanently housed with the Louisiana Division of Archaeology and Historic Preservation or in a repository selected of data has been completed and shall forward to the COR a catalog of items entered into curation. The location of any notes, photographs or artifacts which are separated from the main collections will also be documented. Presently existing private archeological collections from the project area which are used in data analyses will remain in private ownership. The Contractor shall be responsible for delivery of the analyzed archeological materials to the individual landowners, the Louisiana SHPO's office, or any other repository designated by the Government following acceptance of the final report. All artifacts to be permanently curated will be cleaned, stabilized, labeled, catalogued on typed State curation forms, and placed in sturdy bags and boxes which are labeled with site, excavation unit or survey collection unit provenience.

APPENDIX II

PROFILES OF AUGER TESTS AT MEDORA PLANTATION

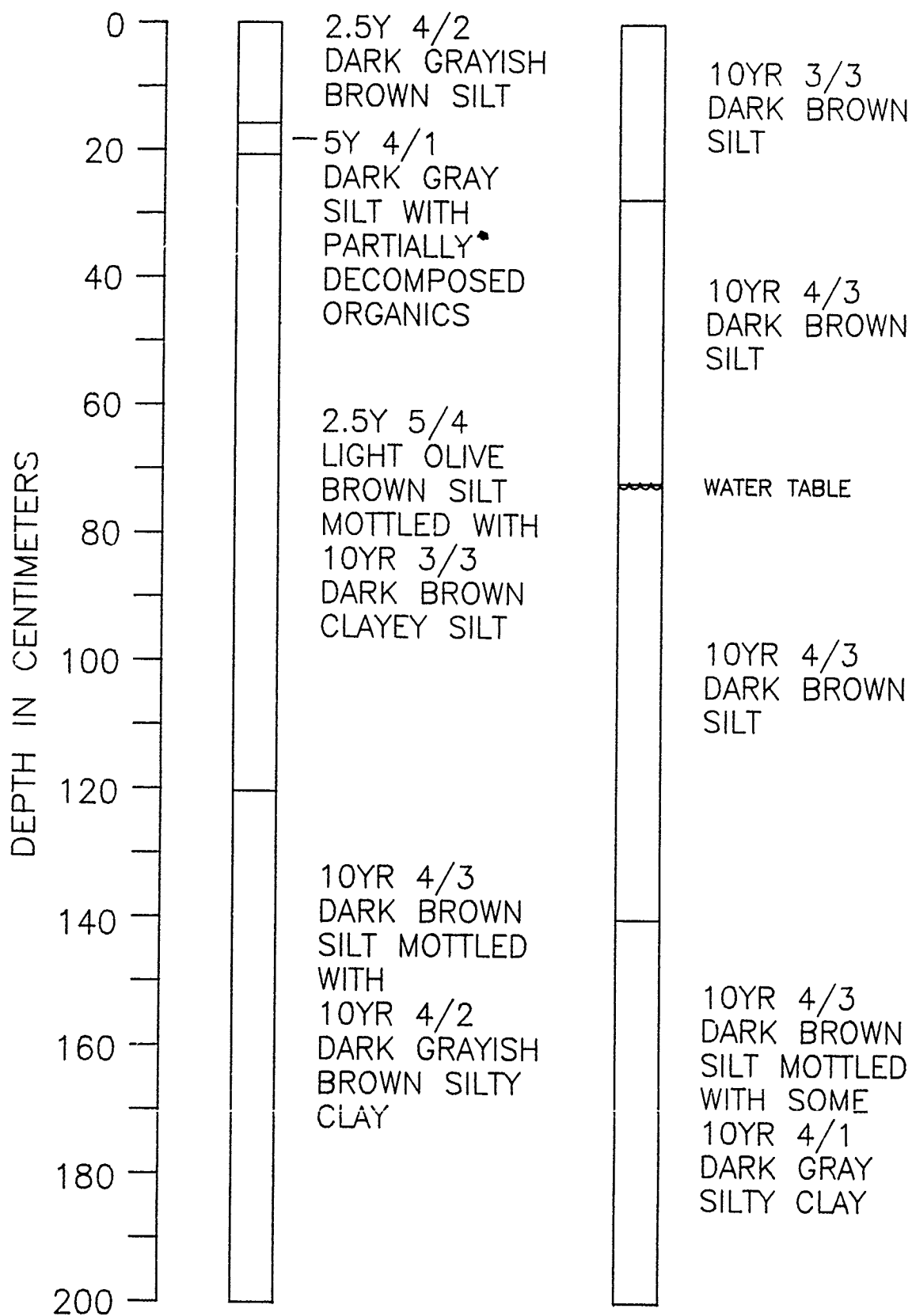
AUGER TEST 1

AUGER TEST 2



AUGER TEST 3

AUGER TEST 4



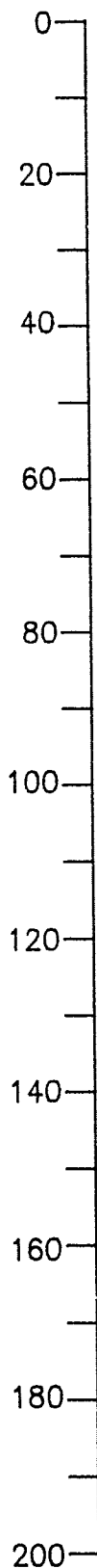
AUGER TEST

5

AUGER TEST

6

DEPTH IN CENTIMETERS



10YR 4/2
DARK GRAYISH
BROWN SILT
MOTTLED WITH
10YR 3/3
DARK BROWN
SILT AND
10YR 4/3
BROWN SILT

WATER TABLE

10YR 4/3
DARK BROWN
SILT

10YR 4/3
DARK BROWN
SILT MOTTLED
WITH
10YR 4/1
DARK GRAY
SILTY CLAY

10YR 3/3
DARK BROWN
SILT

10YR 4/3
DARK BROWN
SILT

WATER TABLE

10YR 4/1
DARK GRAY
SILT CLAY
WITH PARTIALLY
DECOMPOSED
ORGANICS

10YR 4/3
DARK BROWN
SILT, GRADING
INTO SILTY
CLAY